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paddock

PINK FLOYD'S VALUABLE RACERS

Not the quickest, maybe, but certainly the most valuable crew at this year's Le Mans 24 hours were Pink Floyd twosome Nick Mason and Steve O'Rourke. As fans of the band will know, Mason is the Floyd's drummer and O'Rourke the manager, both of them deeply committed fast car, and racing enthusiasts.

Although both of them have raced at Le Mans before, this was the first year that they had shared a car in the classic. They were paired in the Michael Cane-prepared Groupe 5 BMW M1 alongside Richard Down. The car sported some rather blue-chip sponsorship : Crockford's, Olympus Cameras, Yellowhammer advertising agency, and of course, O'Rourke own company EMKA Productions. It is EMKA that has produced the Floyd film, The Wall. *"It's coming out on Friday August 13 in New York,"* he told GPI, *"although I'm not sure how apt the date is. But I need the money for my Group C car for next year ; I tell you, it's going to be fantastic."*

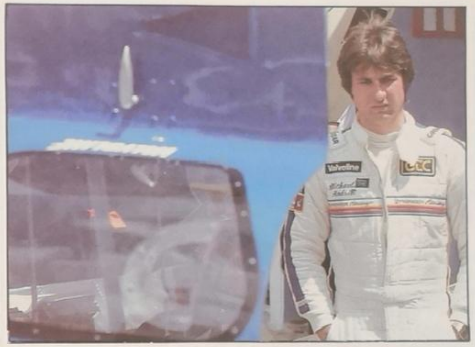
Mason, meanwhile, was extremely relaxed. Riding through the paddock on his little collapsible motor-bike for which Modena Engineering are the agents, he was looking somewhat incognito on Thursday in white hat and sunglasses. But once the race had started, it was down to shorts and T-shirt before his shift at the wheel. The car was heading for an excellent finish and running in a steady twelfth place when the engine blew just into the 22nd hour. The sighs of relief from Lloyds of London could almost be heard in the Le Mans pits !

D-TYPE CRASHES AT ARNAGE

It sounds dramatic, doesn't it ? It probably was, for the owner. In fact it took place before practice even started, and it wasn't a real D-type anyway. The car in question was an Italian-owned Lynx D-type replica. The owner set off from the Hunaudières restaurant late on Monday evening and wiped off the nose of the car at Arnage. But don't weep too many tears : he reappeared in a Rolls Royce later in the evening.

TELLING IT TO MIKE

Michael Andretti had no lack of expert advice for his first time at Le Mans. When he came in from his first night session, Sam Posey was waiting with a TV crew to interview him, and Phil Hill was standing alongside.



After the formal interview, they discussed the snares and pitfalls which Mike was just discovering. Posey, with a dozen races behind him, was typically and hastily modest -- *"Hey, I mean, I'm not trying to* tell *you."* As Mike, sweating profusely in the humid evening air and coping with a bad case of hay fever, nodded his head in agreement, Posey commented on *"what a really curious track this is. The corners, you have to convince yourself to hang out much wider than you believe, then snap it into the apex"*. He described it with a quick jerk of an imaginary steering wheel. *"Yeah"*, said Mike, snuffling. *"I went into the apex too soon and that's when I spun."* It was on the tricky negative camber corner in what is still called "the new section", the series of corners that replace the old White House section coming up from Arnage to the pits.

"You've got to brain-think the gearchanges", Hill put it. *"You've got to get out of the habit of snatching the gears, you have to ease the through every time.*

"You snatch the like in a speed event, and about midday Sunday, you start to say 'Oops, it's jumping out'. And the gearbox goes. And you start cursing those snatches.

"You have to overcome the inner brain that just automatically pushes your hand", said Hill, who with three wins behind him, albeit in '58, '61 and '62, speaks with some authority.

"Right," Mike agreed. *"I was doin' it. I was snatching and I hadda keep tellin' myself..."*

And there had been a bad, bad moment, apart from the spin. *"I was going through the bend on Mulsanne, there was a guy on my left, okay, but in the blind spot on the right, damn, there was a Ferrari. I had to jink through between them... uh."*

Commented Posey : *"With the politics of driving a Ferrari at Le Mans, there's always a couple of drivers..."* and his finger tapped his head.

Mike's other problem was the lights. *"Man, in my reflectors, they are really blinding. Yuh know, at Riverside, I did quite a bit of night driving, but there wasn't anyone behind me"*. Unhappily, as it turned out, he never had to worry about it.

PUBLIC COMFORT

A number of improvements in the spectator areas had been made between the Dunlop curve and Tertre Rouge, both in terms of safety and for spectators. The barriers had been moved back a few yards, particularly at the Esses. And spectator banks had been built up to give the public a greatly improved view. However, the banks were still loose earth, although they should be more settled next year. At Mulsanne, the signalling area had been concreted, but once again, there was much loose earth too.

MYTH OR FACT ?

The problem of fuel consumption was one which concerned nearly everyone. This is borne out by the six cars which retired having run out of fuel.

The panic was caused by Porsche having to greatly reduce revs at Silverstone. But that was a race that gave the wrong impression. The organisers expected cars to do around 1000 kilometers in the six hour event. So they were allowed to start with full tanks and then make five stops. But the winner covered around 1150 kilometers, fine for a little 1.4 litre Lancia, but not for a Porsche 956 or even a regular Group C car. Five stops in six hours : if one multiplies both figures by four one arrives at 20 stops in 24 hours. The FISA rules allow 25 stops in a 24 hour event, an instant improvement. As the tanks are currently restricted to 100 litres each, and cars start with full tanks, the maximum amount of fuel allowed per car works out at 2600 litres (571.9 Imp. gallons).

But some teams were over-careful and for many of them, the reasons for them running out of fuel remained a mystery. That was the case with both Bob Akin's Porsche and the De Cadenet. As Mike Wilds said, *"They keep telling me there should be 25 litres left in the tank, and I keep telling them there isn't."* Brian Redman in the Cooke Racing Lola was equally mystified : *"we worked out our fuel consumption at 7.1 mpg which should have given us 18 laps on 100 litres, but it stopped after 16 laps. We don't know why."* The car was parked out on the circuit.

The Porsche works car had a small digital read-out perched on the left of the dashboard, showing fuel left, and average fuel-flow rate, so there could be no surprises for their drivers, who could also pace themselves exactly.

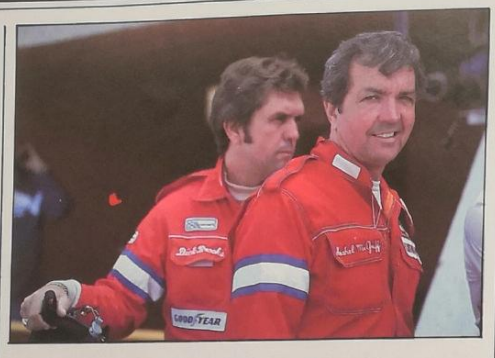
For Porsche, any worries of fuel consumption were dispelled long before the end. Admittedly, the drivers had been told to ease off. *"We had to lean off the engine quite a lot after the pace in the early hours,"* said Bell. *"Jacky was doing 13 laps, I had to do one stint of 16."* But the calculations were accurate as we all now know.

PORSCHE 956 S FOR SALE

Porsche will market customer versions of their Le Mans-winning 956 next year. This will be a similar operation to that with the 935 which was on the market the year after it first appeared, although in single turbo version while the factory was running a twin-turbo engine.
Jurgen Barth of Porsche confirmed that around ten 956s would be built, and it is expected that they will go primarily to European customers to contest the World Championship of Makes, and later to American customers.
Among those who have already ordered cars are John Cooper, for a car to be run by Charles Ivey's enthusiastic team, and John Fitzpatrick, who has ordered two. The price hasn't been made available, but a guideline might be the 935 which was approaching £80,000 three years ago.

YANKEES AND REBS

The extraordinary fascination Le Mans exerts was shown by the turn-out of Americans drivers, 30 of whom qualified. They ranged from Mike Andretti, 19, to Hershel McGriff, 54, from the famous like Hurley Haywood and Al Holbert in a works Porsche -- not to mention Mike's dad -- to the little-known such as Frederick F. Stiff III in a BMW M1. Looking down the lists, it was amazing how many were in their 40s and 50s, while the Europeans tended to be into their 30s.
GPI's prize for the most colorful team went to Billy Hagan and his Stratagraph Chevrolet Camaros. Yankee Hershel McGriff was mixed up there with a bunch of Rebs with down home accents that were a pleasure to hear, but Hershel has special credentials.



In 1950, driving an Olds 88, he won the first 2,700-mile Carrera Panamericana that went the length of Mexico and whose modern equivalents are the London-Sydney or the Trans-Sahara rally of recent memory -- flat-out over special stages hundreds of miles long.
McGriff, now a timber millionaire, recalled that *"we just put in seat belts and stripped out the back seat to make room for a fuel tank and spare wheels. We'd hit these tiny Mexican towns at the end of a stage, several hundred people with the crews and back-up cars -- which we didn't have -- and the only place they could put us was on cots in the football stadium, and the only food was from a grubby little chile stand. I lost 15 pounds, and I was trim then."* We may add that he still is.
In the best tradition, the team threw a splendid party Friday night in the little hotel they took over, and abstinence was not the rule. Hagan's laid-back co-driver Gene Felton explained : *"When I wake up after this, I'm more aggressive, I get out there an' really drive."* He did only 10 laps in qualifying and is not a night-racer, but was totally unfazed, though he was critical of some of the drivers, the eternal complaint at Le Mans.
Owner Billy Hagan was at Le Mans because *"to me, it's the ultimate goal of road racing."* Last year was his first try, but Cale Yarborough had brake failure and crashed after the first hour. Hagan runs Terry Labonte, a leading driver, in the NASCAR Grand National series, and a full IMSA program.

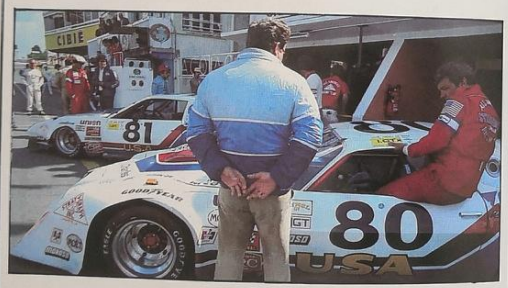
Any team which employs people like Joey "Spook" Knuckles, Roy "Fuzzy" Wall and Dewey Livengood (honest), gets our vote every time.

MUSEUM-PIECE

When the straight-six BMW engine in the Garcia/Stiff/Naon M1 seized in Saturday morning's warm-up, the team had no alternative but to fit the engine that had already done nine hours at Silverstone and the Nurburgring. *"If it finishes this race,"* said Albert Naon, *"we'll give it to BMW to put in their museum."* It lasted for 9 1/2 hours but then one of the drivers crashed the car, so we shall never know if it would have gone the distance.

SEE AND BE SEEN

Spotted in the crowd : Renault F1 chiefs Gerard Larrousse and Jean Sage, both former drivers in the event which Larrousse won twice with Pescarolo, and having a busman's weekend for the sheer love of the sport ; Reine Wisell, the Swedish driver now spending six months in Sri Lanka each year running a holiday complex, but saying he wants to get back to racing ; Christopher "Superman" Reeves, a friend of Rupert Keegan's, sunbaking in the paddock ; Count Rossi, overseeing his Martini Lancias...



F1 COMES TO LE MANS

Perhaps Fiorio is right, but entered for the 1982 edition were nine current Grand Prix drivers and 25 drivers who have had at least one GP outing. The active F1 drivers were : Jochen Mass, Eliseo Salazar, Manfred Winkelhock, Geoff Lees, Riccardo Patrese, Marc Surer, Emilio de Villota, Teo Fabi and Michele Alboreto. Their predecessors were : Jacky Ickx, Derek Bell, Henri Pescarolo, Hans Stuck, Rolf Stommelen, Brian Redman, Pier-Carlo Ghinzani, Guy Edwards, François Migault, Bob Evans, Chris Craft, Mario Andretti, Danny Ongais, Bobby Rahal, Dieter Quester, Desire Wilson, Rupert Keegan, Tiff Needell, Patrick Neve, David Hobbs, Mike Wilds, Hans Heyer, Bernard de Dryver and Vern Schuppan.

SON OF "GRAND PRIX"

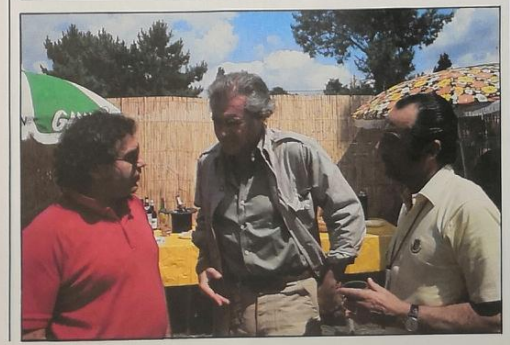
... and John Frankenheimer, who produced the classic film "Grand Prix" in the mid-1960s, still a seat-gripper during its regular TV reruns. He told GPI he is preparing a new, 10-12 million dollar film called simply "Speed", set in the Grand Prix and Le Mans worlds.
"The scenario differs from Grand Prix in being concentrated on a driver and his story, rather than the pattern of a racing season. The driver is a man who seeks to fulfill himself as a human being, and who regularly competes in Formula 1 and Le Mans. He is about 40 and has already won the 24 Hours three times ; he is an American living in Europe who is reaching the end of his Grand Prix career. The film will also highlight a driver of about 30, German, French or English, and 80 per cent of the film will be shot on location, during the Grands Prix. My co-producers", he added, *"will be Bernie Ecclestone and Bernard Cahier"*, the latter a veteran racing journalist.
The hero will not be based on an actual driver, Frankenheimer added. He would not name possible actors, though he said one world-ranked actor was currently being contacted.

THE FOURTH 956

For the first time in many years, the Porsche team had decided to race-prepare their cars at the circuit, under the awnings of their huge and faithful transporters. In previous years, the cars have always been trucked back to Teloché, a few kilometers from the circuit, to a garage where the mechanics could work under cover in the cool and dry.

Under the awnings, though, there were four 956s, although the fourth wasn't receiving much attention. This was the spare car which had run at Silverstone in scarcely race conditions due to difficulties with fuel consumption.

But after Silverstone, it had been taken back to the Porsche factory near Stuttgart, and had been put straight onto a rolling road for a 24 hour test. Rev changes, the Mulsanne straight and even pit stops had been simulated by computer, and once the over-worked 956 had passed this test with flying colours, the three race cars had been built to similar specification. The rest you know : that over-worked spare had done its job well.



FUEL FOR THOUGHT

Everyone expected the 50th Le Mans to mark the rebirth of the World Championship for Makes. In some ways this was true, although perhaps not in the way that most people expected.
Much, probably too much, was expected of the new Group C entries. No doubt there was a tremendous entry of cars considering this was the first year of the new regulations, but in most cases the cars were too new and many of the teams weren't experienced in racing them. The root of the problem might be judged to be the laws governing fuel consumption. Drivers couldn't simply race their cars and not worry about fuel. There were no hares, no spectacular battles with drivers giving their all. Drivers had to accelerate gently and change gear carefully, but at least they were able to corner just as quickly as before and braking was perhaps later and less than normal, to save acceleration and fuel.
Yet this is only theory, because statistics reveal that these so-called "pussy-foot" drivers actually covered five laps more than in 1981, although they had no pace-car delays to contend with. Furthermore, as luck would have it, the winning cars were entered by the one team which had been more critical and more constrained by the regulations than anyone else. Rumour was rife that the Porsche turbo engines were too thirsty to finish the race, but of course, this wasn't to be the case. A wise fuel injection adjustment during the race put an end to any worries the team might have had during the opening hours of the race.
The Cosworth-engined entries were simply beaten, particularly Rondeau who suffered mechanical problem after problem. The irony is that Jean Rondeau attacked Porsche for complaining about the current regulations. It was, he said, their decision to use the turbo. He could have used a turbo engine too, but he deliberately chose not to for the sake of reliability and fuel consumption.
So it was the Rothmans Porsche team which triumphed, giving Jacky Ickx an astonishing sixth win, and Derek Bell his third.
But it is not up to Porsche nor Rondeau, nor Aston Martin, nor Sauber, nor March nor any of the teams to decide whether the regulations are well- or ill- founded. It's up to the public, and they probably wished for more from such a magnificent field of Group C cars. It might have been more prudent to set fuel capacity at 120 litres and the number of fuel stops to 30 so that the race would remain a race. But obviously, the most important thing is to maintain a balance between the regulations and engine technology, and that the FIA and engineers come up with the right equation.
The fuel consumption race of 1975 wasn't a success, but this year's event had more promise, even if the final outcome was less of a race to the flag than most people had hopped.

Didier Braillon

OPENING DOORS

Running a closed car at speeds of around 200 mph has its problems : the doors tend to bell outwards. This problem afflicted Guy Edward's Ultramar Lola, one of the Rondeaus and both WMs. But the most dramatic result was when Al Holbert touched the door in his Porsche 956 at the end of the Mulsanne, and it just flew away. It took the team around 20 minutes to fit another.

MINI GROUP C ?

Le Mans veteran Paul Frere told a symposium on the future of Group C racing that a "mini Group C" was being considered. "This category would give a chance to the small constructors to race at Le Mans, "he said, the race's sporting chief Alain Bertaud having said earlier it was "a chance for those who don't have big factories or big sponsorship behind them."
Frere said the idea was for cars that would be slower than the top line Group C racers. "They would resemble the under-two-litre open Group 6 cars, the barchettas, and the fuel consumption would be limited to about 25 to 27 litres per 100 kilomètres (about 11 miles per gallon)."

NAIL-BITING

Engine trouble in both practice sessions meant that the Canon Camera/GTI Engineering Porsche 924 to be driven by Richard Lloyd/Andy Rouse/Jeff Allam didn't qualify and was named as first reserve. And even if it was accepted for the race, Allam wouldn't be allow to drive. The same fate befell the team last year, again thanks to a works-loaned engine.
But there was still a chance it might start. For the first time ever, there was a 45 minute warm-up on Saturday morning. If something should befall one of the cars... And when Salazar had a tyre explode and damage the Dome's unique suspension, there seemed the possibility that they might race. Furthermore, the American-entered BMW M1 had a seized engine. Hopes rose for the Porsche crew.
And then they were dashed. The Dome men set to work to repair the car, and the BMW M1 crew fitted an old engine. The Porsche 924 sat in the pits waiting for the cars to arrive. And when they both did so, it seemed all over.
But at the last minute, the Mirage was wheeled off the grid, and the Porsche started, Within an hour they were in 34th place, and after five they were in 23rd position. But then part of the transmission broke when Rouse was at Mulsanne. Although the car was still driveable, he walked to the signalling pit to telephone the main pits, and that was his mistake. The car was excluded as the driver was judged to have abandoned it.

CHINETTI : 50 YEARS ON

"And then she kissed me". There was a very definite twinkle in the 80-year-old Italian eyes as Luigi Chinetti described *"the most emotional moment of my life -- more even than winning Le Mans"*.
It was the moment that, as Guest of Honor of the 50th 24 Heures du Mans, he waved the French flag -- *"a pity it wasn't the American flag, but it is beautiful also"* -- to start the race. The lady was France's attractive young Minister of Youth and Sports, Mme. Edwige Avice, who also decorated Chinetti, already an Honorary Citizen of the City of Le Mans, with the first medal of the new Club des Pilotes des 24 Heures.
Chinetti won the race at his first attempt in 1932 with France's Raymond Sommer in the 2.3 liter Alfa-Romeo, and competed as a driver in every race until 1953, winning again in 1934 with Philippe "Phi Phi" Etancelin in the Alfa, and with Lord Selsdon in a 1.9 litre Ferrari in the first post-war race in 1949.That gave him an admirable record, equalling Woolf Barnato's hat-trick of 1928-29-30, and not to be matched until Phil Hill completed his triple for Ferrari 1958-61-62.
Chinetti's other co-drivers included Louis Chiron, T.A.S.O. Mathieson and Tom Cole. His other driving victories included two Spa 24 Hour races before the war, two Paris 12 Hours after the war, and the second edition of the Carrera Panamericana, the 2,700-mille trans-Mexico blind. (The oldest driver in this year's Le Mans, as we relate elsewhere in this special edition, was the first driver to win the Panamericana, in 1950).
Chinetti had emigrated to the United States from Italy in the 1940s -- he still retains a heavy Italian accent -- and set up as a Ferrari importer, also forming the North American Racing Team.

NART and its Ferraris, and the little roly-poly figure of Chinetti, sporting a shapeless hat, pebble glasses and a beige raincoat, became a byword at Le Mans. He entered cars in every race from 1958 to this year, sometimes as many as five, always Ferraris -- except two, a little Alpine 1005 cc in 1967, and a 7 litre Chevrolet in 1972. The Alpine was a try at the old Index of Performance based on engine size and favoring little cars. The Chevy was *"because I always thought you should be able to make an American engine last the distance -- after all, look at American technology -- even the Ferraris have American parts"*
He missed only two years, 1975 and 1976, when he fell out with the Automobile Club de l'Ouest. *"I had bought a beautiful Ferrari spyder at the Geneva auto show, and two Le Mans officials -- I won't name them, they are in the next room -- saw it and said: 'Luigi, that is the perfect car for the spirit of Le Mans, the sort of thing a businessman would buy to go Grand Touring, and race'. "They insisted I bring it to Le Mans. That was March. Then I bring it here in June, and they say it was not legal. I withdrew all my cars. That is the dark face of Le Mans"*.
And what drivers he brought ! The Rodriguez brothers, Masten Gregory (whose co-driver was Chinetti's son, Luigi jr.), Dan Gurney, David Piper, Jochen Rindt (he and Gregory scored NART'S only outright win in 1965 in a 3.2 litre Ferrari), Nino Vaccarella, Ritchie Ginther, George Follmer, Chuck Parsons, Sam Posey, David Hobbs, Mark Donohue, Jean-Pierre Jarier, Milt Minter...
Everyone, he said, had been asking him how Le Mans had changed. *"I tell them, yes, the buildings, the track it has changed. But is no change in the spirit. Everyone comes, all ages, they all enjoy it. At night, I go round to talk to the ordinary people in the crowd, not the officials. Has not changed, the people"*.
He had gone to lunch with Phil Hill at the restaurant at Les Hunaudieres on the Mulsanne straight where the cars pass the restaurant windows at 200 miles an hours. *"You know, the owner was born the year the race started, in 1923. I ate there with the family in 1928 when I first visited. Phil was very impressed "* and his eye twinkled again, as they had when he had described *"young Le Mans officials who think they can dictate the law"* to Luigi Chinetti, 50 years on.

THE VOICE OF LE MANS

Even with French limited to "Bon-joor", every spectator at Le Mans is conscious of the rich, sometimes a little gravelly, tones of Jean-Charles Laurens booming through the day and the night and the day again, giving way only to the regular English commentaries of our contributor Bob Constanduros. You've probably also heard him at Silverstone and Brands Hatch as he keeps the French fans informed, but Le Mans is uniquely Laurens' domain.
He has been commentator there for 26 years, first doing the overnight stint and for the past 15 years, being the sole French commentator in a marathon which starts about 10 a.m. on Saturday and finishes with interviews with the winners around 4.30 Sunday afternoon. If he slept, he says, he would lose the pattern of the race. He has got his hand in, started to link the 55 to 60 car numbers with the makes, sponsors, two or three drivers, team managers, histories and so forth, by commenting at the Tuesday scrutineering and the Wednesday and Thursday practice sessions.
In his glass-walled commentary box high above the center of the pits, opposite the famous clock, he has a team of assistants lap charting, timing and "helmet spotting" -- the only way to know instantly who is driving each car, or at least that half of the field which has its pits to his left and go past his box. His spotters also report with binoculars on pit stop incidents and collect other information.
He needs his own lap charting because the official results are issued only once each hour, and only this year for the first time was there an experiment using a TV screen linked to the timing computer to show the positions of the top 20 cars as each crossed the line. But Laurens has also got to know that, for instance, two cars well below the top 20 are having a great battle for class leadership. It is this constant flow of information -- race control gives him instant reports of every track incident -- that makes his commentary so authoritative and entertaming.
Journalists covering the race have long relied heavily on his information and that of Constanduros, as official reports are scanty, to say the least.
To the wealth of race detail, Laurens adds a steady flow of background information on cars, drivers and race history, provided by one of the best statisticians in the business -- his wife, Bernadette, who was brought up to the roar of racing engines in a house literally alongside the track at Spa.

FIORIO SLATES LE MANS

In a pre-race outburst which could make him very unpopular in France, Lancia racing chief Cesare Fiorio made some swingeing criticisms of the Le Mans race, its organiser and its circuit.

"The circuit is more than ten years out of date," claimed the experienced Italian : *"It is also extremely dangerous. Three of my drivers - Patrese, Alboreto and Ghinzani - made a slow tour of the track before the race and found that in some places the guardrail was not even properly mounted.*
"The most dangerous part of the circuit, of course, is the Mulsanne straight. At a time when many other tracks have installed chicanes to slow down the cars, I do not understand why Le Mans does not do the same. And Mulsanne needs a minimum of four chicanes...
"When you think that the AC de l'Ouest will probably have half a million spectators here for their race, I see no reason why they should not invest much more in safety. Even the pits are inadequate : if both our cars come in for service at the same time, we don't even have room for them both.
"My drivers only race here because Le Mans is part of the World Championship and they are contracted to the whole series. But I believe that unless something is done to make the circuit safer there will soon be no well-known F1 drivers who are prepared to take part at Le Mans."

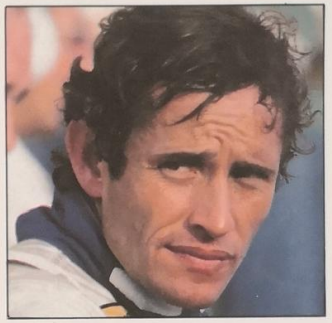
VETERANS

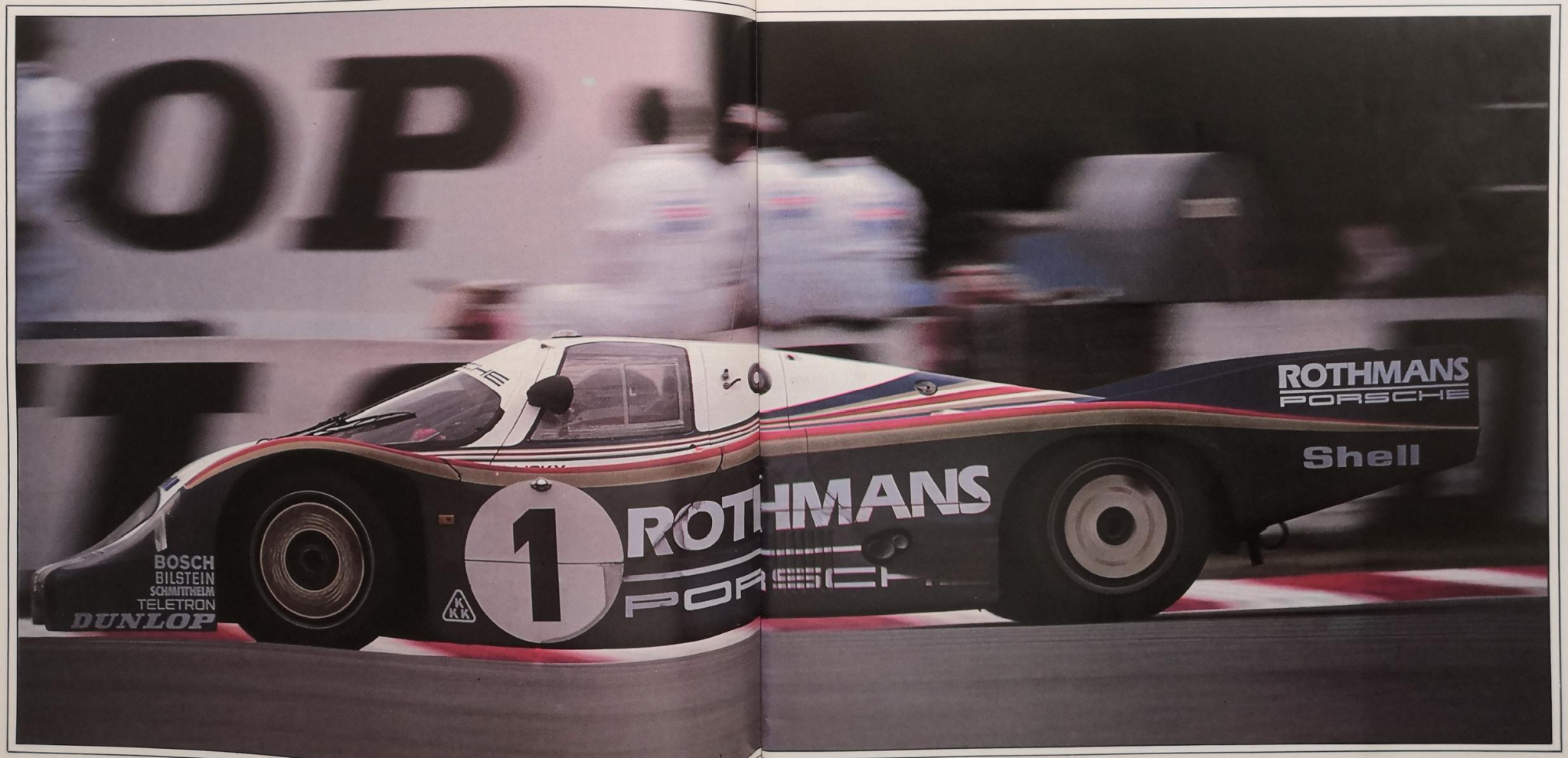
Two of the most regular Le Mans drivers were paired in the Ferrari 512 BB entered by the French Ferrari importer, Charles Pozzi Claude Ballot-Lena first drove there in 1966 and Jean-Claude Andruet in 1967.

THE JACKY AND DEREK SHOW: THREE TIME WINNER

Not since Phil Hill and Olivier Gendebien in the 'sixties have two endurance racing drivers found the rapport which now exists between Belgium's Jacky Ickx and England's Derek Bell. Both veterans of John Wyer's various teams, they bring a unique balance of speed and experience to the Le Mans 24 Hours. On the face of it, this was the easiest of the three Le Mans (1975, 1981 and 1982) which they have won together. In truth, it was much more difficult than it appears, as we discovered.

by Mike Doodson





There seemed to be more British fans at Le Mans this year than ever have attended the event, at least in the last ten years. Perhaps the presence of the Nimrod Aston Martins had something to do with it, or possibly (on a less patriotic note) it was one result of the sudden devaluation of France's currency.

But for what ever reason those true-Brit fans were there, they had one perfect reason to cheer. His name is Derek Bell, co-driver with Jacky Ickx of the number 1 Rothmans Porsche 956. With the exception of a couple of occasions when they were making fuel stops, the three-car Porsche team had raced away with this year's Le Mans, and it was Ickx/Bell who had been doing the winning. Not a thrilling race perhaps -- and the French started to trickle away on Sunday as the sun climbed higher in the sky. But the English-speaking fans stayed glued to their spaces in the grandstands and over the barriers. They wanted to see Derek Bell add the 1982 Le Mans 24 Hours to the two earlier Le Mans victories he had taken with Ickx, in 1975 (Mirage-Ford) and 1981 (Porsche 936).

As he waited afterwards, clean Rothmans shirt on his back, to receive his trophies in the Automobile Club de l'Ouest's Welcome building, Derek wanted to recognise the loyalty of those fans. The race had taken its toll on his face, now lined and slightly haggard, and he couldn't help yawning. But he will never forget those supporters.

"It was wonderful. I first noticed it when I was doing the last long stint : there were about two hours still to go, and I spotted this Union Jack in the crowd as I went under the Dunlop bridge and whistled down to the bottom of the Esses before the left hand flick.

"One lap there was just one Union Jack, so next time round I flashed my lights. Next time it was like a bloody football match ! Honestly, I've never seen so many Union Jacks. They appeared when Jacky and I were on the podium, too. There was even a special Derek Bell Union Jack which someone must have made specially for me, in anticipation. It's moments like that which make the sport for me... I can tell you, it all brought tears to my eyes..."

It had been a long and sometimes uncertain road to this great Porsche victory, the first 1-2-3 result for a manufacturer in a world championship race since Ferrari at Daytona in 1965. New rules, a completely new car for Porsche, different components and a new sponsor had left them with only one race -- at Silverstone -- in which to prepare. That Porsche did it right -- when its most important rivals had been working for this since mid-1981 -- places the utmost credit on the abilities of the men from Stuttgart.

Only one component was left from the 936 *barchetta* with which Jacky and Derek had won last year's 24 hours, and that was the engine. But although it is powerful -- 650 bhp -- the 2.65-litre flat-six Porsche is far from economical. And although Porsche had been twice to Ricard for tests with the prototype 956, the sessions had been a series of short 10-lap bursts to check components and to try to assess the performance.

At Silverstone in May, the 956's debut race, there had been an additional snag. Instead of being a 1000 Km race like Monza or the Nürburgring, Silverstone by tradition is a Six Hour event... and under the FISA rules there would be no additional fuel stops permitted even though the race would run about 11 per cent longer in Six Hours than a 1000 Km event.

As a result, Porsche had to take drastic fuel saving measures. The turbo boost was turned down from 1.3 bar to 1.1 or less. The drivers were instructed to hold revs down to 6000 or so. And they had to take all but one of the corners in top gear. Afterwards, beaten by a nimble Martini-Lancia, Ickx had spoken of his "frustration" in such difficult circumstances. Bell merely described the new regulations as "dumb".

In France, former Le Mans winner Jean Rondeau had chosen to disagree publicly with the comments both of Porsche and its drivers about the new rules. *"The regulations have been available for us long enough,"* said Rondeau : *"now it's up to Porsche to build a car which doesn't use too much fuel. We've got our Ford DFL engine which is reasonably economical, and we'll use it to try and win".*

Well, there weren't too many Rondeaus around at the end of this year's 24 Hours, although the two Ford DFLs which survived this surprisingly punishing race were both in cars made by the driver/constructor from the Champagné district near Le Mans. The DFL, it would appear from comments made by many drivers who used one this year, produces vibrations that are sufficiently violent to shake off electrical parts, to wreck clutches, even to break the engine away from the chassis. Even the two Ford C100s which had been expected to provide Porsche with its major opposition suffered at Le Mans from the "Ford disease". With the two Lancias in trouble with electrics at the very beginning of this year's race, and so many Ford-powered cars suffering from the shakes, it seemed that nothing would stop the three Porsches in their red, gold and blue cigarette sponsor's livery.

Easy it may have looked, but easy it wasn't. *"It was important for Jacky to go hard in the first couple of hours"*, said Derek : *"we had to show the opposition that we could race. That was terrible for the fuel consumption, because we were only getting 45 minutes' running on a tank-full and we knew that we would only be allowed to make 25 fuel stops altogether. As a result, when it was my turn to go out I knew that I had to go easy to save the extra fuel which Jacky had used at the beginning.*

"The worst moment for me came in the evening on Saturday, when a roughness developed in the engine. It was OK under hard acceleration, but as soon as I put it into a long gear the response got rougher and rougher. It was a real sweat... Strangely, it never occured to me that it might be something to do with temperature affecting the fuel mixture, although I'm now sure that it was, because all the gauges were reading zero in the cool night air. This morning, when the sun came up, it all came right again".

Jacky backed up what Derek had said. *"It looked easy"*, said the Belgian, glowing in the aftermath of an unprecedented sixth victory, *"but it was not. Because we could not use the engine as we would have wished, to save fuel we had to drive on the limit everywhere : on brakes, in corners... and it was 'ard".*

In mid-morning, Ickx had one of those difficult moments which only a man with his sort of experience can cope with adequately. Coming into the Ford chicane just before the pits, he felt something wrong with the handling of the car. Sensing a possible tyre deflation, he instantly pulled into the pits -- to the amazement of his crew, who were expecting him three laps later and, of course, hadn't received a message from him on the car-to-pits radio. *"Yes, it was a puncture"*, he explained. *"If you have a feeling about something like that, or you're not sure about it, you have to stop. If you don't you can do a lot of damage : think what would happen if I had tried to do a full lap with that tyre breaking up..."*.

Derek takes up the story. *"With three laps still to go, Jacky should have gone straight out again. But Herr Flegl, who was in charge of the computer in our pits, shouted 'No, you can change drivers and refuel now'. If we hadn't built up that three lap margin on fuel, we would have to have made a second stop three laps*

later. That's the sort of saving which wins endurance races... and if we'd needed to do so at the end, we could have turned up the wick and gone for it".

There are some other little vignettes from this truly fabulous story of Porsche's victory. Did you know, for example, that the beautifully compact little five-speed gearbox fitted to the 956s had been secretly tested on one of the front-engined four-cylinder Porsche 944s which raced in last year's 24 Hours ? Or that Jacky and Derek agreed during practice this time that their 956 was pulling to one side on the straight... but that they couldn't agree on *which* way it was pulling ?

Both men, moreover, had been somewhat gloomy after the Thursday night test. As Derek explains, *"the engines in all three cars had been changed on Wednesday night : you can bet that the three 'killers' had been fitted for earlier qualifying, and the three 'enduro' race engines were put in for the final practice. Unfortunately there was something wrong with our race engine, so we had to find a replacement. That was the* seventh *engine they'd had to dig up, so it's pretty sure that our race winning motor was not the best in the bunch".*

Even a driver with Derek's experience learns lessons, though. One of the tricks he learned last year was acquired on the podium, where he collapsed as he literally went legless from the first draught of celebratory champagne.

"After making a fool of myself last year, I stuck to water this time", said Derek, who nevertheless enthusiastically sprayed the bubbly from the ACO podium. The crowd was even more unruly than ever this year, largely because the club had decided for financial reasons not to engage the serried ranks of *gendarmerie* who have traditionally lined the track at the end of the 24 hours to protect the fans from their own enthusiasm.

But it is that same crowd which makes Le Mans unique not only in endurance racing but also in world motorsport. Will Jacky and Derek be back in 1983 to race the exciting new car which Porsche may be making ? *"I don't know"*, admits Ickx : *"I was supposed to have retired from racing in 1979, and I only came back because Porsche asked me to do it. I like the spirit and the ambience in endurance racing, and I like being able to do eight races each year instead of the 30 or so which I used to do. We will have to see about 1983..."*

And Derek ? *"Well, I've got something to aim for now, haven't I ? They tell me that I'm the first Englishman to have won here three times, and it would be nice to try to get Jacky's record. The only problem is that every time he wins I'm driving with him, so the margin always stays the same"*

We think, too, that Derek Bell will be back next year to keep those flags flying. How about making your plans now to welcome him at that little piece of England which has established itself just after the Dunlop bridge at Le Mans ?

Porsche : New cars for '83 ?

"I admit", said Porsche Competitions Chief Manfred Jankte, ***"these cars aren't much fun for the drivers. But these are only the first months of Group C".***

Personally, he told GPI, he is in favour of the fuel restrictions, allied to a free choice of engine size and construction. *"We have to have a limit to the power and speed, and the 350 kilometers an hour (217 mph) we are doing now seems to me the maximum. This is a way of setting limits".*

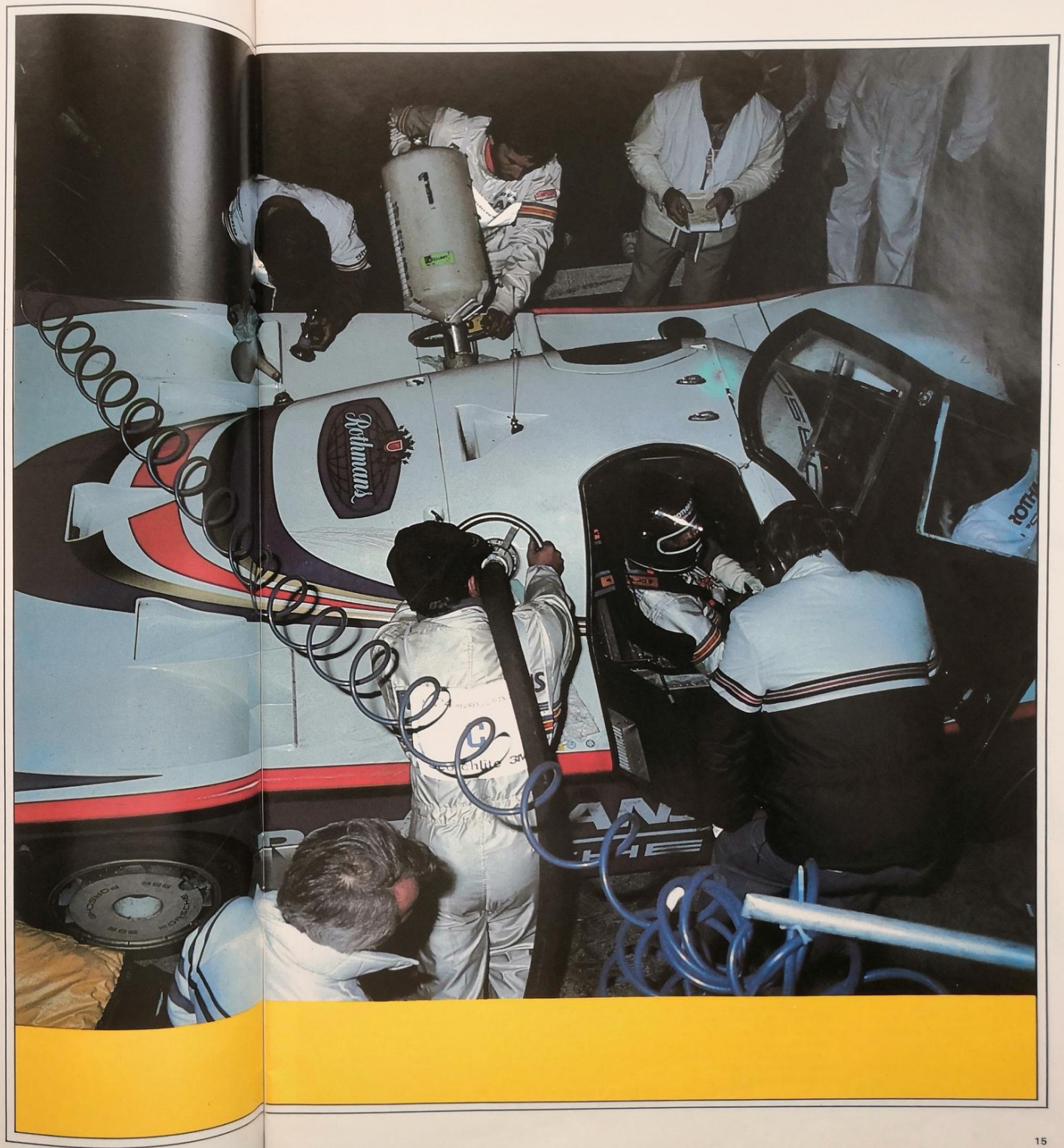
The 956s are the first generation of Group C cars. *"They are built on a conventional base, with the engine and the car's size and shape quite close to the old Group 6 car. Within three years, we will produce a car better adapted to the formula, a smaller car and engine with better aerodynamics and better turbocharging".*

This is a big advantage to the Group C rules, said Jantke. *"It forces the engineering departments to work on the engines to develop the best compromise of power and consumption. That's what we are doing with street cars, because drivers no longer seek more top speed, they want better torque with reasonable economy.*

"There will be three to five years of intensive work on such things as fuel injection and ignition and the technical development of racing and production cars will once again be in parallel. Formula One is going the other way.

"This can be a pacemaker of engine development", Jankte said, noting particularly that engine equivalence formulas -- the big bone of contention in F1 -- have never worked perfectly.

But when will it be fun for the drivers again ? *"By next year, we may even have cars which look quite different in size and shape and maybe engine"*, Manfred Jankte replied smiling.



RACE DRAMAS

A pictorial record of the major dramas during the 24 hours : the Mirage vanishes ; Porsche's steamrolling 1-2-3 ; Fitzpatrick–Hobbs lead home the rest ; Rondeaus disappoint ; and Jöst's Porsche 936C: Bob Wollek's last minute retirement.

THE MIRAGE VANISHES

After 15 years away from Le Mans, Mario Andretti was back with two ambitions -- to win with his son Mike, 19, a feat only one family has achieved, the Rosiers in 1950, and to match Graham Hill's unique record of the World Championship, the Indy 500 and Le Mans.

American Harley Cluxton, a regular entrant, provided a new Mirage M12 with a 3.9 litre Ford DFL, though his exciting plan to run Rick Mears in a second car did not work out.

With the Mirage came designer and team manager John Horsman, long time chief assistant to that greatest of Le Mans managers, John Wyer, of Aston Martin, Ford GT 40, Porsche 917 and Mirage fame.

"We only got 1,500 miles testing and I would have liked 5,000, but there wasn't time", Mario said before first practice. But the car had excellent speed, and he was hopeful. On the Wednesday, his first time at the track and at dusk -- and despite hayfever -- Mike was within five seconds of Mario's time. The car qualified comfortably on the fifth row despite a clutch problem, and in the pre-race warm-up, Mike surprised himself by running within one second of the old man "and I wasn't trying very hard". Mother and younger brother were at the track to lend support -- Mike's 12-year-old sister had a pony show back home that was far more important than her dad and brother at yet another race -- and there was no forecast of rain.

But to the stupefaction of the team, the car was disqualified. Mario was hauled out of the cockpit, only minutes before the start, by officials who pushed the car off the grid into the paddock. The oil radiators had been found to be behind the gearbox, a clear infringement of Group C rules (to avoid spilt oil from rear-end shunts). The team admitted "a slight technical infringement". What they could not understand was why it was not found through day-long scrutineering, two four-hour qualifying sessions and the 45-minutes warm-up.

Chief Steward Alain Bertaud agreed it was unfortunate -- it made for "the hardest day of my life, you can't imagine what a difficult decision it was". But pre-race scrutineering, he explained, is basically for safety (one car was excluded). Full technical conformity can only be established at a post-race strip-down, he said, adding it was up to the competitor to ensure his car is legal.

Throughout the practice and race, scrutineers recheck the cars to ensure against cheating -- not that anyone suggested the Mirage problem was anything but an honest mistake.

Bertaud was handed a written report at 2.40 p.m., with the race starting at 4 p.m., and immediately called in Cluxton and Horsman "to ask them if they could change the position of the radiators and make it legal". Horsman, he said, told him it was impossible.

Believing it could be settled, and not wishing to upset Mario, they did not tell him -- which explains why he was "helped" from the car.

By 3.30, Bertaud and his stewards had to make a decision, because there was a reserve car, Richard Lloyd's Porsche 924. He suggested again they could try the repair, or withdraw the car voluntarily -- Horsman said angrily that one steward suggested Cluxton announce it had a cracked chassis and was unsafe -- or it would be excluded. The result : exclusion.

Le Mans, which so often played fast and loose with the rules in the past, had followed them to the letter.

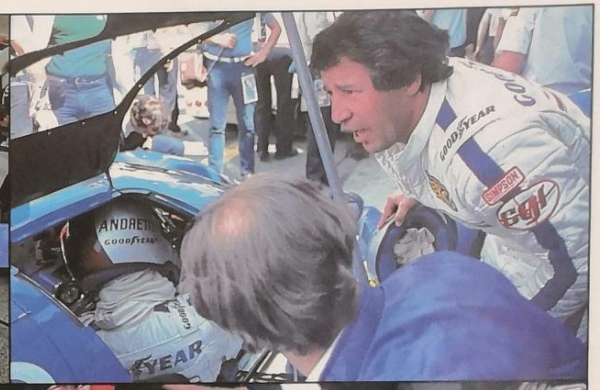
What apparently was never made clear to Horsman was that the car did not have to be changed by 4 p.m., but could stay in the pits and join the race when ready, possibly losing only a few minutes. The mechanics in fact did the job in the paddock in just over a hour, but the stewards got really angry when they wheedled it back into pit lane to try to race.

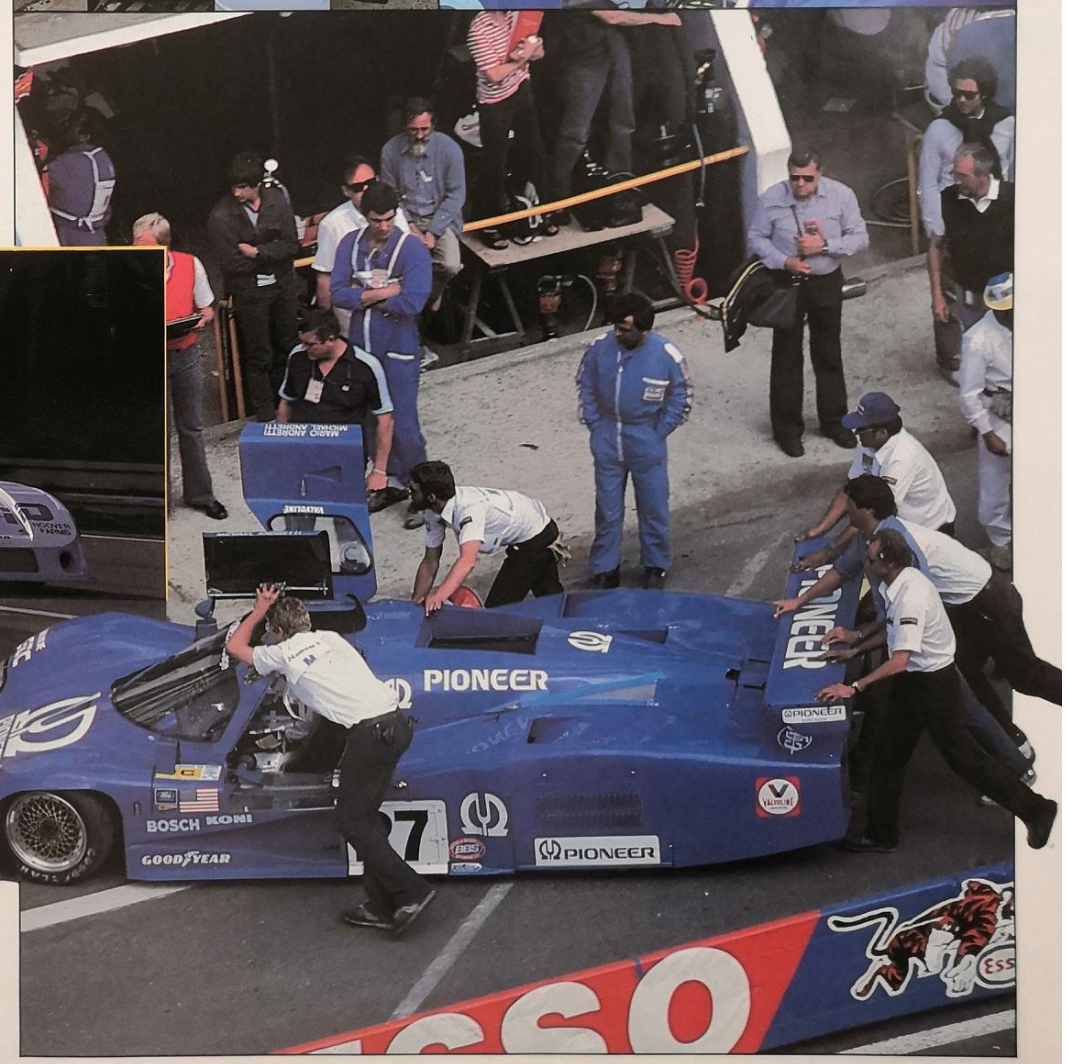
After the debacle at Indy this year, when Mario was eliminated in a pace-lap accident, it was a savage blow.

"It's incredible. I've never had such a rotten year. I can't believe I have to pay such penalties after 25 years in the sport."

"I bear no grudge to Indy", Mario growled, "and I can take a setback as well as anybody, but this one is hard to just The French", he added grimly. "will have to do a lot to make up for this".

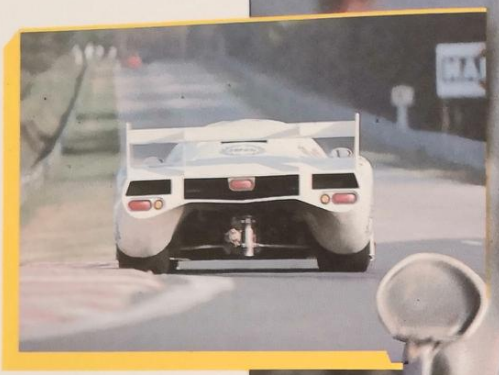
"Le Mans, racing, I couldn't care less at the moment. But next day, I wake up ready for battle again. I don't know if that's clever or stupid". So would he be willing to try again ? "This could change, but at the moment, I couldn't care less if I ever see Le Mans again".

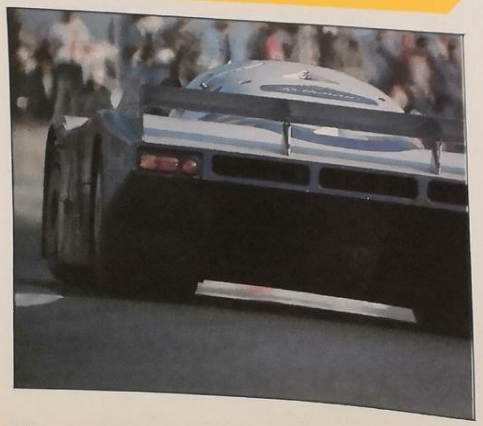




IN RETROSPECT

It all happens at the back end : few people saw much more than that of the Rothmans Porsches (bottom). The engine in the back of the EMKA BMW M1 (below) blew up on Sunday, while O'Rourke/ Mason/Down were lying in 12th place. The Kickers Rondeau driven by Bussi/ Witmeur/de Dryver eventually finished 15th, but a long clutch change cost it valuable time.



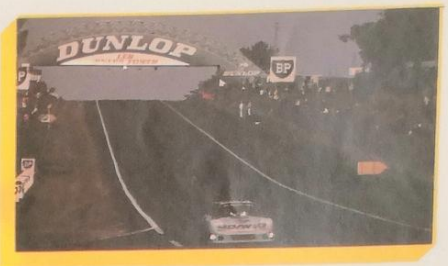


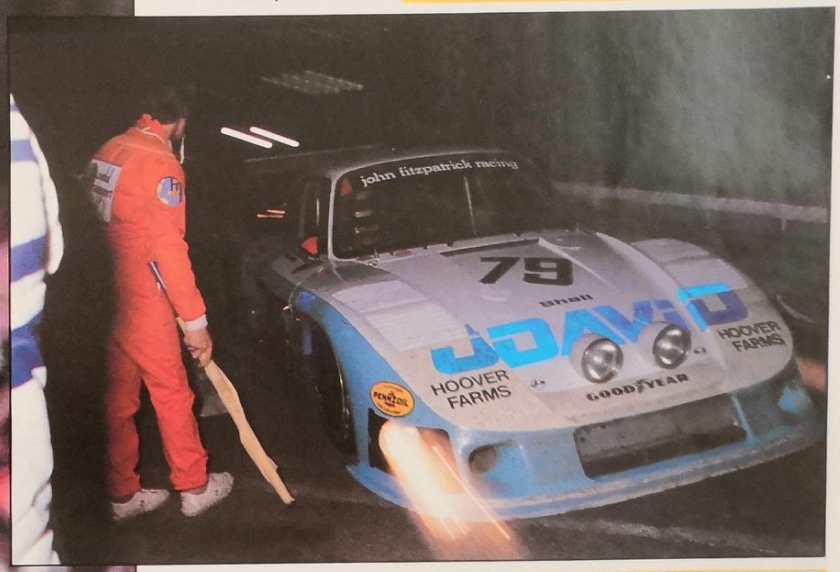
BAD LUCK BOB

The Belga Porsche 936C was the only car preventing Porsche from scoring a clean sweep during the latter half of the race. Even when it began to misfire early on Sunday morning, it still hung on to third, despite the ever worsening misfire. With 97 minutes to go, it was three laps ahead of the third works Porsche when the engine suddenly let go when Bob Wollek was driving.

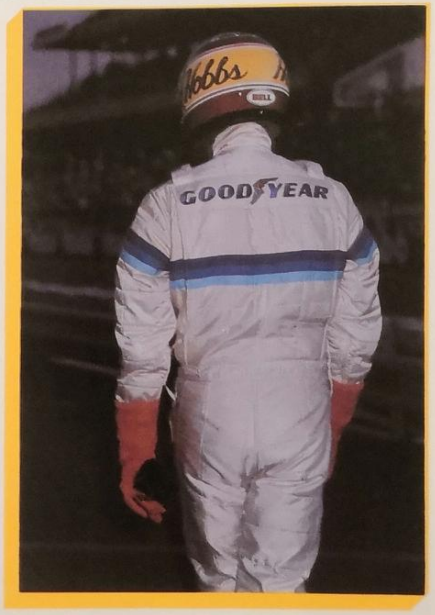
FITZ'S FOURTH

A long day, stretching into night, became even longer for John Fitzpatrick Racing



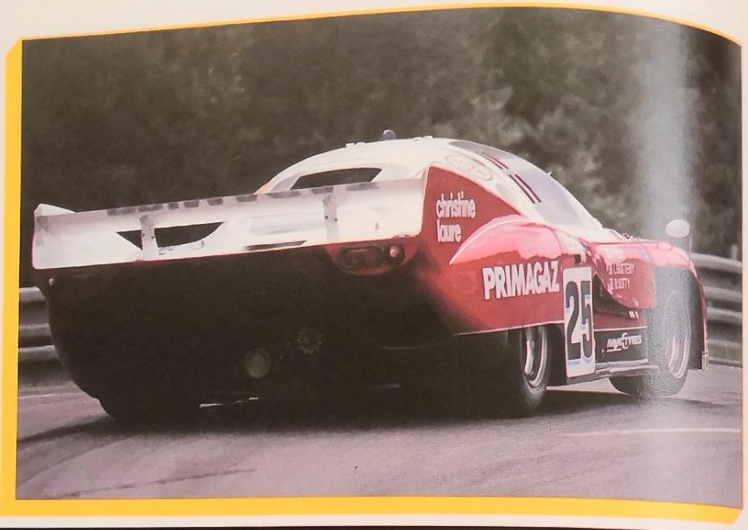


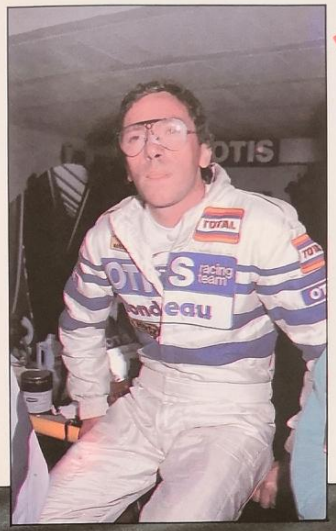
when dawn broke on the Sunday. The Californian-based Englishman (left) and the Upper Boddington flier, David Hobbs (right) were to spend most of the last ten hours driving a five cylinder Porsche 935 after the head gasket blew shortly after six in the morning. It made little difference to their speed. The two professionals actually gained three places during the next ten hours, admittedly aided by retirements. Their only worries when setting consistent times during the early part of the race was when Fitz was left out a lap over the 14 scheduled and he ran out of fuel in the final chicane, having to be pushed the length of the pit lane by his mechanics. Later Hobbs was delayed a lap by a pit marshal over a pace car misunderstanding.



IDOLS OUT

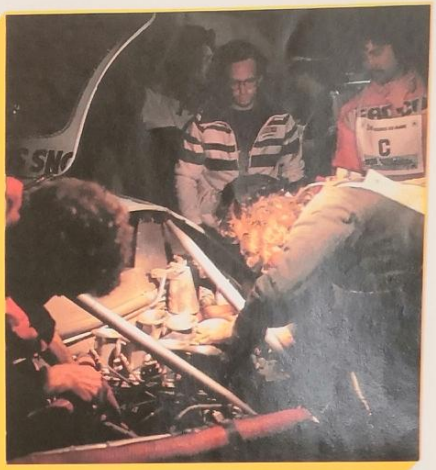
Jaussaud, Pescarolo, Ragnotti, Rondeau : idols of the French who failed to impress their followers this year. The former two never figured strongly, the latter two got up to sixth in No 24 before retirement. The highest finishers were privateers Yver/Sotty/ Guitteny in No 25.

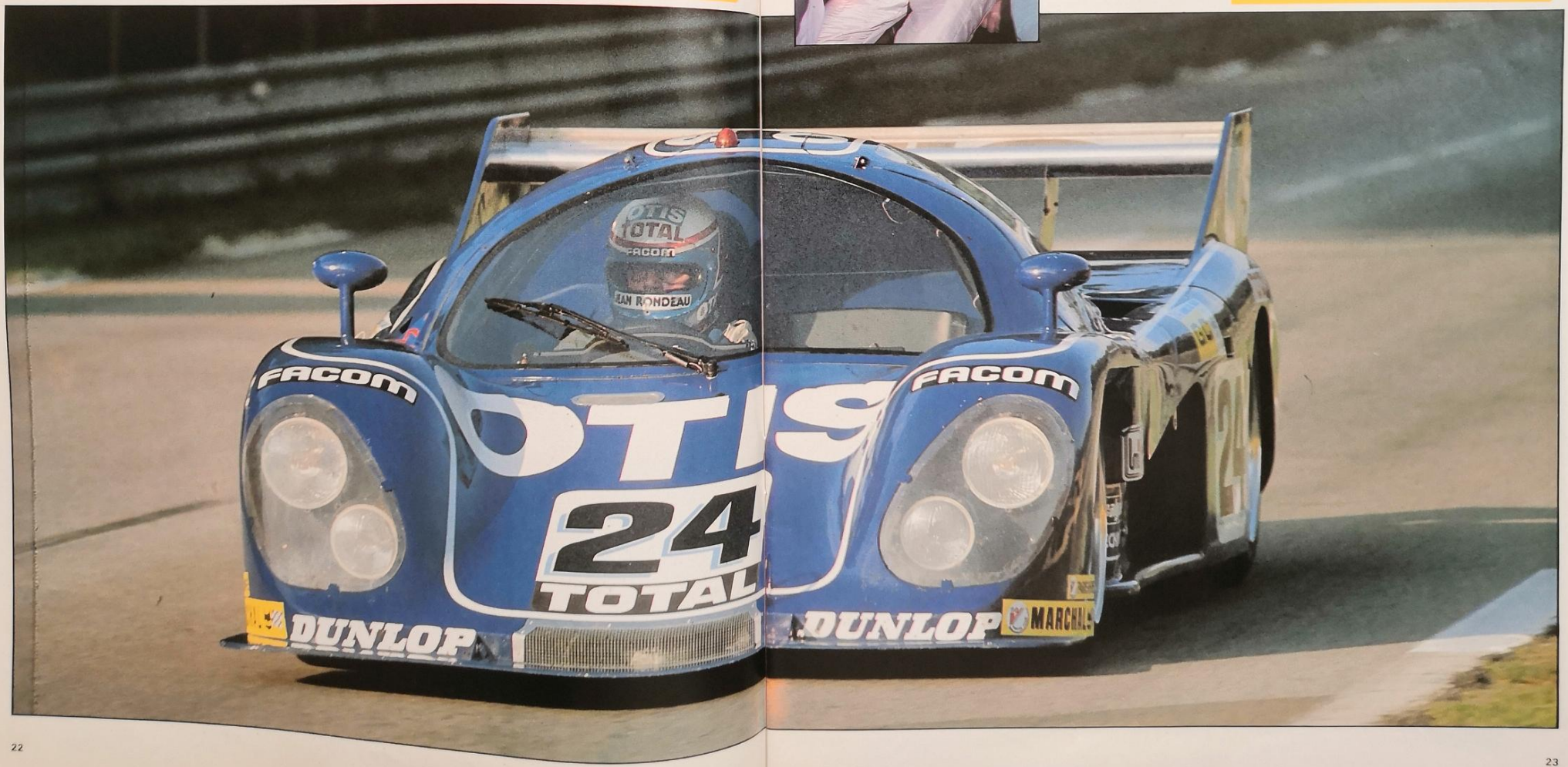


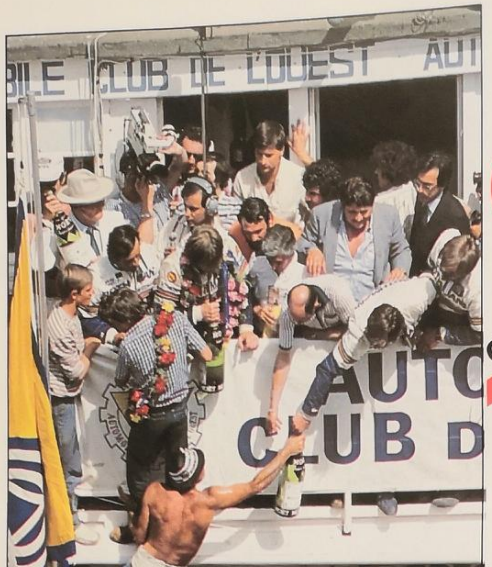


ROUT RONDEAU

Jean Rondeau (left) had time to reflect on his team's fortunes. His entry was decimated by engine trouble, and not one of the works cars finished.





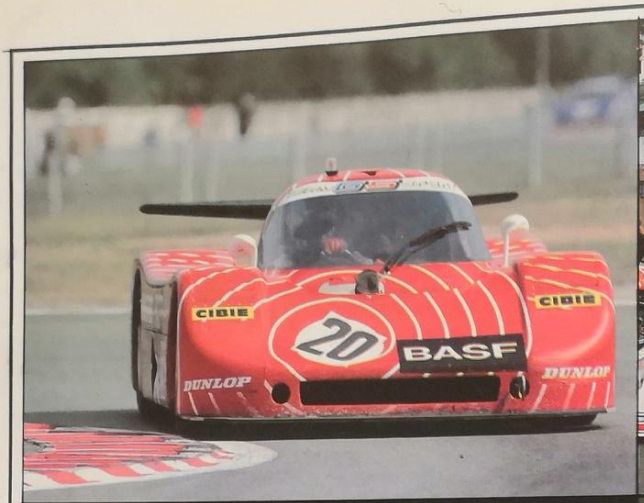


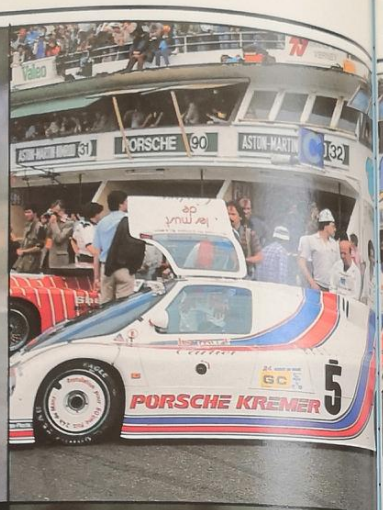
ONE, TWO, THREE ONE, TWO, THREE

That's how the Porsche System finished the 50th 24 Heures du Mans, cruising line astern for the last 30 minutes, entered 1-2-3, and finishing 1-2-3. Despite the usual appeals, the crowd invaded the track even before the Porsches had come in sight for the last time and they were not able to cross the line. So the timekeepers credited them with 359 laps though in fact they covered 360.

CHAMPAGNE PARTY

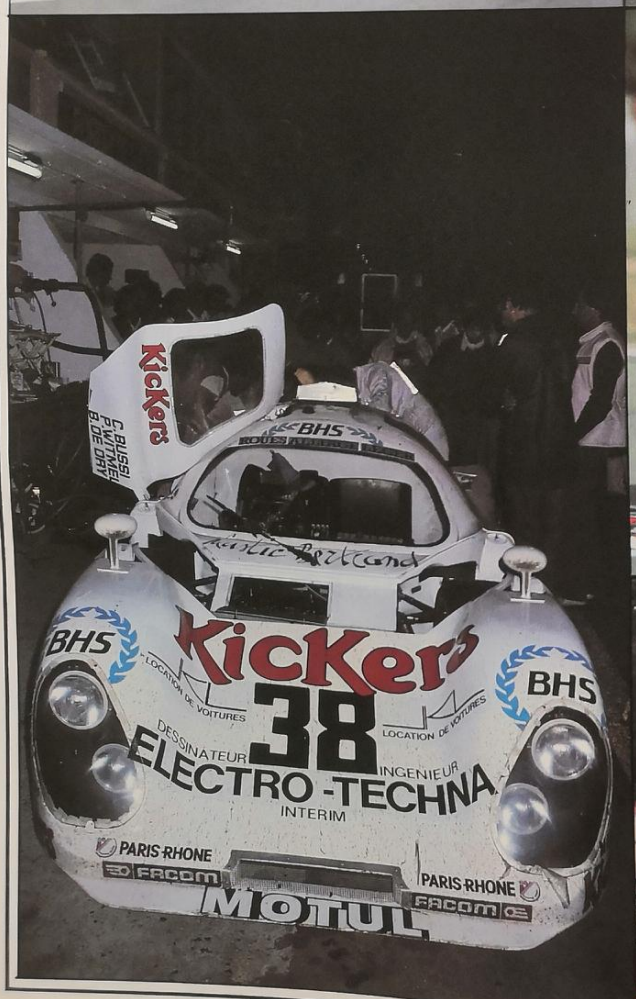
Ickx and Bell had enough strength left to shake the huge magnums of Moët and satisfactorily spray the delirious crowd. On the balcony with them two other heros of the race, Luigi Chinetti, the Guest of Honour and three-time winner, and Olivier Gendebien, whose four wins had been the record until fellow Belgian Ickx made it five, and now six.

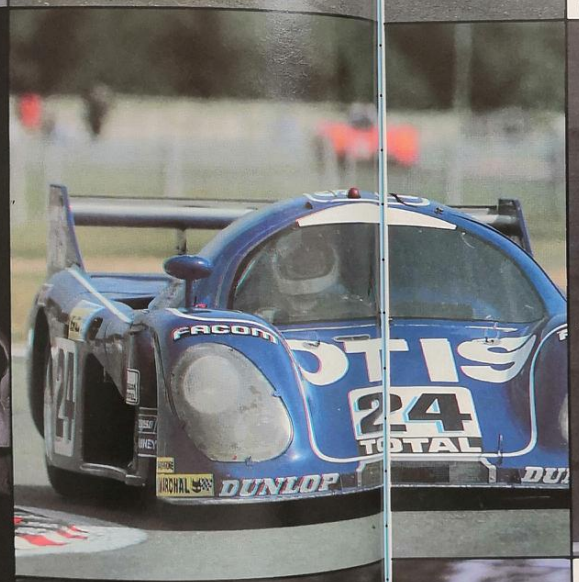


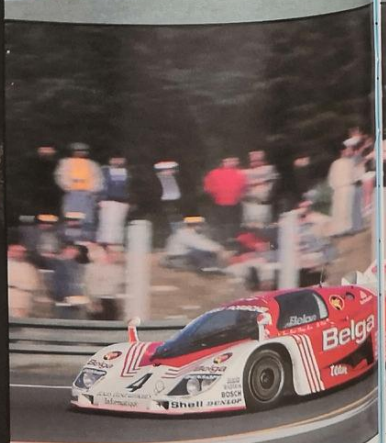


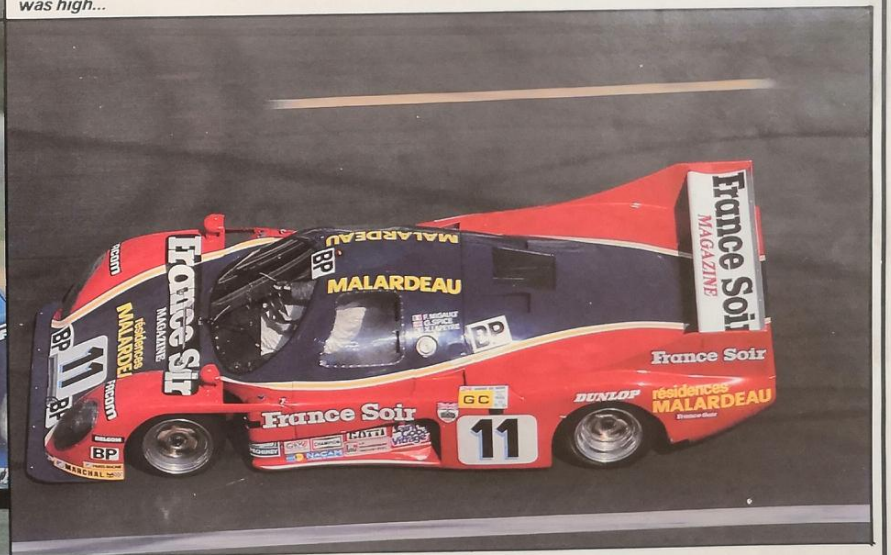
THE LOSERS: "WELL, THAT'S RACING..."

They knew they were taking on the best in the world, and that whatever the time, money and effort, the risk was high...









... because as Derek Bell said : "Here, you don't need opposition. The biggest enemy is the 24 hours itself".

by Bob Constanduros

Up and down the pit lane throughout the 24 hours, long faces would repeat "well, that's racing..." as the field steadily whittled itself down to the 19 runners at the chequered flag. Group C and 24 hours comprised a new mixture for most teams. Everyone had done their utmost to prepare for it, but there are always nasty surprises in store for everyone. Ford ran strongly but were out within six hours. One of six Rondeaus ran with the Porsches but that challenge faded before eleven hours. Only Rheinhold Jöst's Porsche 936 C looked capable of splitting the works Porsches after 12 hours, but a misfire and then a blown engine put paid to that challenge - just 97 minutes from the flag. Others, like Lancia, Sauber and the Kremer K5 scarcely figured.

RONDEAU : RECORD SHATTERED

Before the start of this year's Le Mans 24 hours, the Rondeau team had a superb finishing record in the French classic. One win, one second place, two thirds and a total of 12 finishes from 17 starts. This year, with three works entries, a semi-works car, and two privateers, the chances of a top six placing were excellent, and a finish in the top ten almost a foregone conclusion. But nothing can be assumed at Le Mans, and Rondeau were to have their worst Le Mans ever : two cars at the finish, with the semi-works entry of Yver/Sotty/Guitteny just scraping into tenth place.

It was 2.15 in the morning. There was a slight chill in the air as Rondeau team manager Keith Green leaned against a pit board. The Rondeau pits were almost the closest to the final corner, and Keith stared into the dark like someone watching a blank TV screen, hoping for a familiar sight to appear. Rondeau number 11 had been the fly in the Porsche ointment since the start of the race. While Greene's other charges had continued the team's run of bad luck which had begun in practice, Gordon Spice, Xavier Lapeyre and François Migault had consistently run with the works Porsches. The car had frequently been classified first as the Porsches dived into the pits for fuel.

But now it was missing. Lapeyre had been reported to have stopped at Arnage at 2.07 in the morning and Greene was searching the dark in the hope that it might loom into view at any moment. In his hand, a stop-watch recorded the progress of number 12 Rondeau. Pescarolo had just joined Rondeau and Ragnotti in that car. But as a mechanic offered Keith a cup of coffee and a chocolate biscuit, Greene took a final glance at the watch. It read over five minutes. Ragnotti was late as well.

The look of resignation could scarcely make any difference to Keith's already tired features. *"There's nothing we can do"*, he replied calmly. *"We've already done our utmost to get the cars right. We've done two all-nighters plus an engine change this morning and there's nothing more we can do. If him up there"* - pointing to the star-lit sky - *"decides that he ain't going to help, then baby, that's it. There's nothing more you can do about it."* As Keith kept his vigil, staring all the time into the dark, he spoke about the previous days of practice and even the morning's dramas. During practice, number 12, driven by Pescarolo/Ragnotti had consistently suffered from a misfire. The heart of the ignition system by the crankshaft damper had been overheating and causing the engine to stop. The Rondeau was only 38th on the grid.

There were more problems with 24, that to be driven by Jaussaud/Rondeau. A faulty mounting on the high pressure mechanical fuel pump had held up that car, cutting its 3.3 Cosworth engine from time to time. The two drivers were only 22nd on the grid. Only 11, driven by Migault/Spice/Lapeyre was in the top 20 on the grid, in 16th place.

On Friday afternoon, after an all-nighter, Greene took the Rondeau on to the airfield alongside the circuit to check it out. They'd by-passed the faulty pump just to make sure that the engine was running correctly. The test had gone successfully. At the same time, Keith also negotiated to borrow another 3.9 Cosworth for number 12. They still weren't entirely satisfied with the way their own engine was running. *"We managed to borrow the engine from Ralph Cooke who had paid a deposit on it to Heini Mader just to have it as a reserve. So we couldn't have it until after the warm-up, and even then, it was hard for me to make the decision because it was a £25,000 engine and Jean was catching up on lost shut-eye."*

But as there were no problems with the Cooke Lola, Rondeau were able to have the engine. Then another problem struck : as they were changing the engine, a loose battery wire shorted out on the chassis and burnt out the loom. With a brand new engine in the car, Pescarolo wasn't keen to drive number 12. He was in the lead of the Drivers championship, and if there was a problem, it would instantly threaten his championship position. So he swopped places with Rondeau. Pescarolo/Jaussaud would drive number 24 while Rondeau joined Ragnotti in number 12. This wasn't a popular move with Jaussaud : should the car win, he would still have one less victory than Pescarolo. He need not have worried. They were quickly in trouble with more electrical problems.

On number 12, there more problems, but a change of spark plugs seemed to cure it. The car, however, had dropped right back but, shortly before midnight, Ragnotti and Rondeau had got it up to 11th place. The team had never looked so promising throughout the weekend. Migault/Spice/Lapeyre were in third place and still worrying the works Porsches. Jaussaud/Pescarolo were ninth in number 24, and Rondeau and Ragnotti were eleventh, the latter having set fastest race lap on his way through the field.

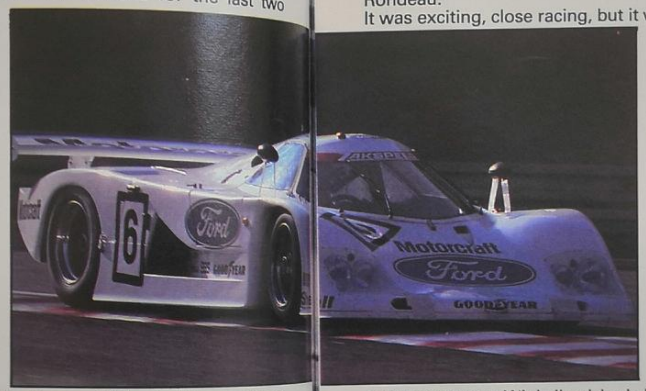
But Jaussaud and Pescarolo were in trouble. One of the drivers, had overrevved the engine, and it steadily lost power. A change of sparkbox and new brakes did little to help, and it plummeted down the order until the engine blew altogether after 8 hrs 33 m.

But the other two cars were still running strongly. At two in the morning, after 10 hrs of racing, good old number 11 was still on the same lap as the leading Porsches of Ickx/Bell and Mass/Schuppan. Rondeau/Ragnotti were up to seventh place, and Pescarolo had joined them in order to keep his championship hopes alive.

But within 20 minutes, all that had come to an end. First Lapeyre had parked his car at Arnage, and a few minutes later, Ragnotti joined him there. It must have been a strange sight, the two Rondeaus parked within a few hundred yards of one another, neither driver being able to go and talk to the other for fear of being disqualified for leaving the car.

Greene kept up his vigil for a little longer, and finally left the pits for a bite to eat with Gordon Spice. A couple of toasted cheese and ham sandwiches might revive them. But even that was a disaster. The cheese formed a lump in Gordon's stomach, and both a French doctor and their own race doctor who goes by the name of Spike Milligan (no relation) recommended that Spice should be flown home.

So it was in a quiet Rondeau paddock on Sunday morning that Greene explained the reasons for the last two



cars' retirement. *"The ignition sender on the front of the crank by the damper appears to be the problem."*

It hadn't been the way Rondeau had hoped. They'd been more confident than previously having taken part in all the World Championship races. It was an enormous disappointment.

FORD : THE COME-BACK THAT WASN'T

"Ford's Great Comeback". French magazine posters trumpeted the news for weeks before the race and were plastered around the streets of Le Mans. The French recall vividly the great Ford armadas of the past, but the factory effort this year was only a shadow of that past, although it was massively represented on cam covers -- 18 of the 55 starters had Ford Cosworths (as against 15 Porsches).

"The first practice we used to set up the suspensions, but we soon found that we had a car that was designed with too much downforce front and rear. The Ludwig-Surer car topped out at 320 kph (198.8 mph) and the Winkelhock-Niedzwiedz C 100 at 329 kph (204 mph)" which was something like 20 miles and hour off the pace. On Thursday, they ran a smaller, flatter rear wing and mada some improvement, but could do nothing about the front because it would have meant building a new supporting subframe.

The cars qualified honorably, however : Klaus Ludwig, who shared the 1979 win with the Whittington brothers, and Marc Surer on the third row of the grid and Manfred Winkelhock with Klaus Niedzwiedz on the sixth row. From the outset, they mixed it with the Porsches and the Migault/Spice/Lapeyre Rondeau. Indeed, given pits stops, the leader board showed them lying second and third to the Rondeau at the second hour, fourth and sixth at the third hour, and the Winkelhock car actually listed as the race leader an hour later. The Haywood/Holbert Porsche was on the same lap and the second C100 lying fifth, one lap behind, behind Ickx and Bell and the Rondeau.

It was exciting, close racing, but it was to be over soon. Winkelhock had already reported some clutch problems after an hour and 47 minutes, and from the leadership the car dropped to 32nd at the fifth hour, losing 11 laps as the crew tackled a seized clutch release mechanism. The Ludwig/Surer car was having trouble with its electrics and crawled to a stop at Mulsanne with Surer asking for advice via the signalling pits. There were ominous noise from the engine of the other car.

By nightfall it was all over. Niedzwiedz was at the wheel when the engine let go, Surer could do nothing for the electrics, and the Ford comeback was finished after 6 hours 20 minutes of the 24 hours.

LANCIA : TWO SLOW "HARES"

Lancia, with their cheeky little Group 6 "driver championship specials" and two victories, looked in a strong position at Le Mans. In qualifying, only two of the works Porsche 956s and the Jöst 936 Porsche were faster. The Alboreto/Fabi/Stommelen car was fourth just 3/10th of a second faster than the Patrese/Ghinzani/Heyer Lancia.

Disaster struck from the flag. Both cars had problems with their electrical fuel pumps, Alboreto being stopped out on the circuit, losing an hour, and the Patrese car losing 50 minutes. At the end of the first hour they had done four and one laps respectively and were at the bottom of the field. They worked slowly upwards, but just before the four hour mark, Ghinzani lost 25 minutes for steering column repairs,and his partner Heyer reported turbo troubles two hours later.

Just after midnight, Teo Fabi said later, *"our engine simply blew."* In the other car Patrese, Ghinzani and Heyer continued the struggle, stopping frequently with electrical and lighting problems. Largely thanks to other cars dropping out, they were up to 22nd place after 17 hours -- but the car which had been judged a potential race leader, if not winner, was 103 laps behind the leading Porsche, nearly half the race distance.

Within an hour, it had retired. *"It was an impossible race for us, to have tried to chase the Porsches."* said Lancia's Cesare Fiorio. *"And we realise we made a mistake in trying to run two 'hares'. But Le Mans showed that turbocharged engines still have a chance, despite the rules limiting fuel consumption."*

WM, SAUBER, JÖST AND KREMER : UNFULFILLED PROMISE

Four makes and teams had shown promise in previous races. WM had often been front-runners at Le Mans, Jöst and Kremer have a tremendous reputation in racing, Kremer had won in 1979 with a Porsche 935, and the pretty Saubers certainly looked the part. But only Jöst's Belga-sponsored Porsche 936C even ran consistently with the leaders and it was cruel luck that it should have been robbed of a place within less than two hours of the finish.

Rheinhold Jöst's 936 surely had an excellent chance, being in virtually the same configuration as last year's winning cars apart from its hard top. In Bob Wollek, they had a superbly experienced driver, while the Martin brothers, Jean-Michel and Philippe were no strangers to this type of racing.

Within six hours, the red and white Porsche was up to fifth place behind the works Porsches and the solitary Rondeau. After the 12th hour, it had picked up a place when the Haywood/Holbert/Barthworks car dropped back with clutch trouble. Admittedly it was three laps down on the Mass/Schuppan Porsche in front.

But as dawn broke, the engine began to misfire. *"It's getting worse and worse,"* said Wollek later. *"It started in the night. We're losing around 25 seconds a lap. I think it must be a valve seat problem."* The Porsche popped and banged, steadily slowing. Surprisingly, it managed to remain ahead of the pursuing 956. With two hours to go, it still had a three lap advantage over the works car, but just 23 minutes later, *"the engine just went bang, probably a piston,"* said Wollek. The only real challenge to the works team was over.

Many teams never got that far. Kremer's startling new K5 started in Ted Field's hand's, and despite a spin, it was lying in 12th place after the first hour. But it never completed the second : a head gasket blew 38 minutes into the second hour.

The WM team got considerably further, but not without a lot of trouble. Their team of drivers isn't particularly well-known, apart from Guy Frequelin. Everyone knows just how quick the cars can be, but a multitude of problems often assaults them. In the past, the cars have had some pretty dramatic accidents too.

It was an incident in the second hour that provided a major setback. Dorchy tangled with the Bussi's Rondeau at Arnage and the whole of the front end of the car had to be rebuilt while a large group of Vittel water bottles waited at the back and to refill the new radiator. It was way back in 52nd place in the second hour, but the other car of Raulet/Pignard/Theys was tenth.

By the sixth hour, the healthier car was in sixth place while the other version had fought up to 29th. But then things started to go wrong again. A wire came off a headlight of the better car and later they had problems with one of the doors. The WM dropped to 12th for a couple of hours, then lost fourth gear. That was too much for the mechanics and the car was retired. The other model also suffered door problems but went out with a blown engine and small fire before eleven hours having dropped to 30th.

Just after five hours, both the Saubers were sitting in the pits. The Stuck/Schlesser/Quester model had a broken engine mounting while the starter motor on the Brun/Muller car had failed. Neither was to take to the track again.

The Brun car had been in trouble from the start. On the first lap a water hose had come off, and after stopping out on the circuit, Brun had brought the car round to have the trouble rectified. Stuck, meanwhile, had been fourth, dropped to ninth,was back up to fifth place by the fifth hour when Schlesser brought the car in with a broken engine mounting which was irrepairable.

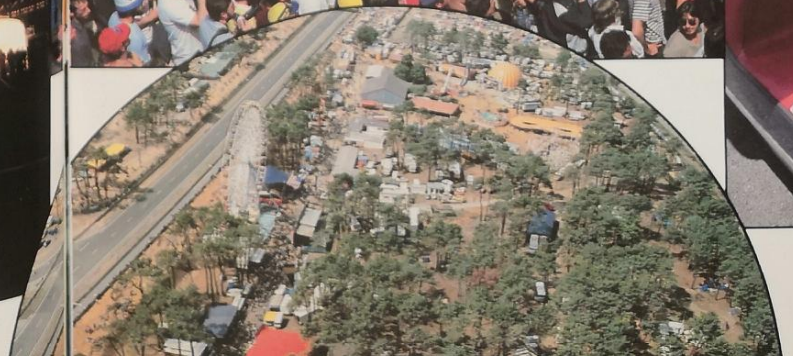
Brun and Muller had a more dramatic time. After the water hose came off, there was a clutch problem which took up time, and then Brun was held up for at least two laps when the marshals at the end of the pit straight had thought that a course car investigating Needell's accident in the Aston Martin was in fact a pace car. After drivers and team managers had argued with officials that it wasn't a pace car, Brun was allowed to rejoin, but not before he had a scuffle with a marshal and stalled the engine. He was in 42nd position when the starter motor broke and it couldn't be repaired.

The first Otis lift?

Scarves and bikinis –
we preferred the latter!

Some people will do anything to get in for free

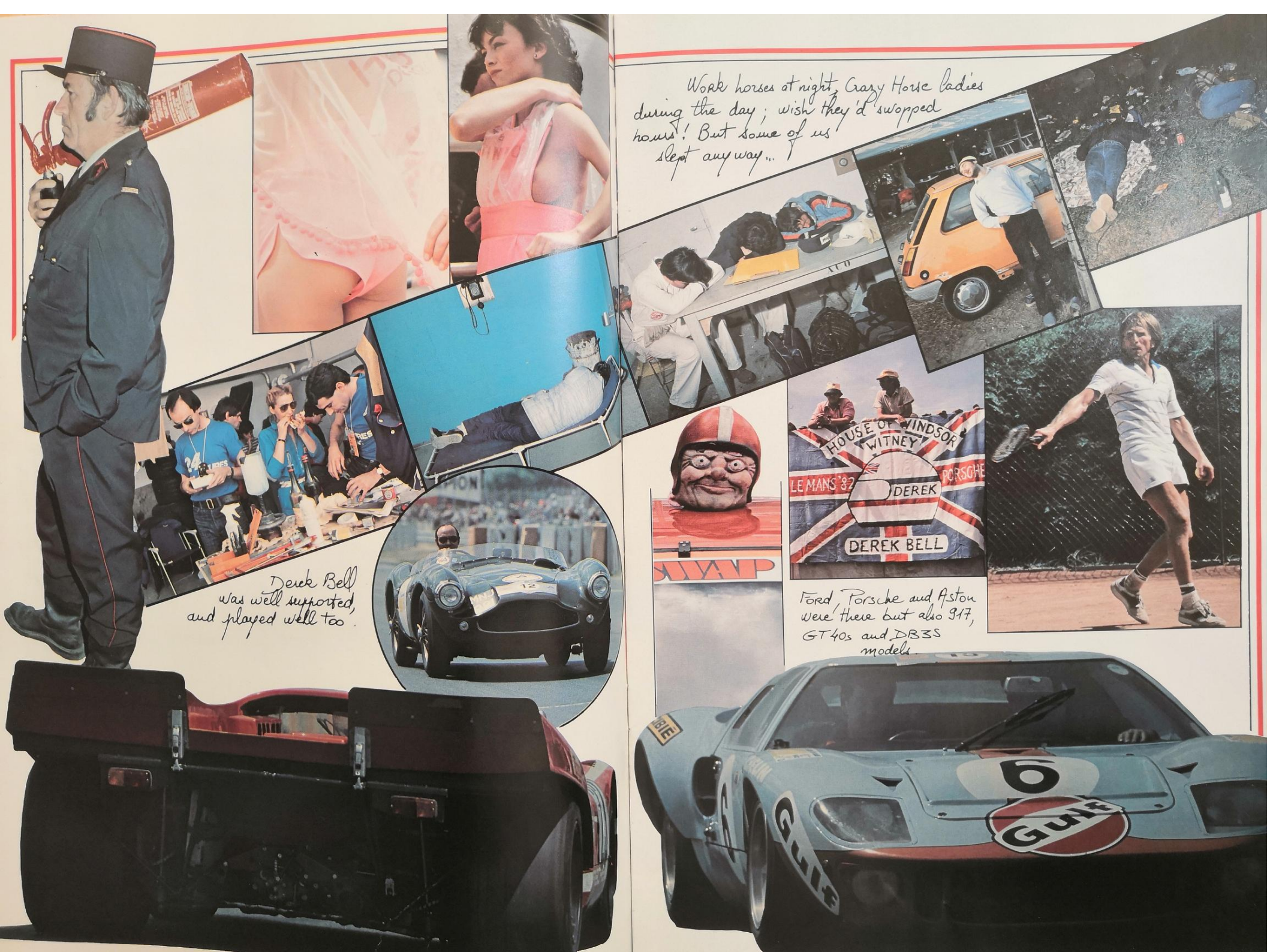
Has Lamouse offer Fitz a Renault drive?

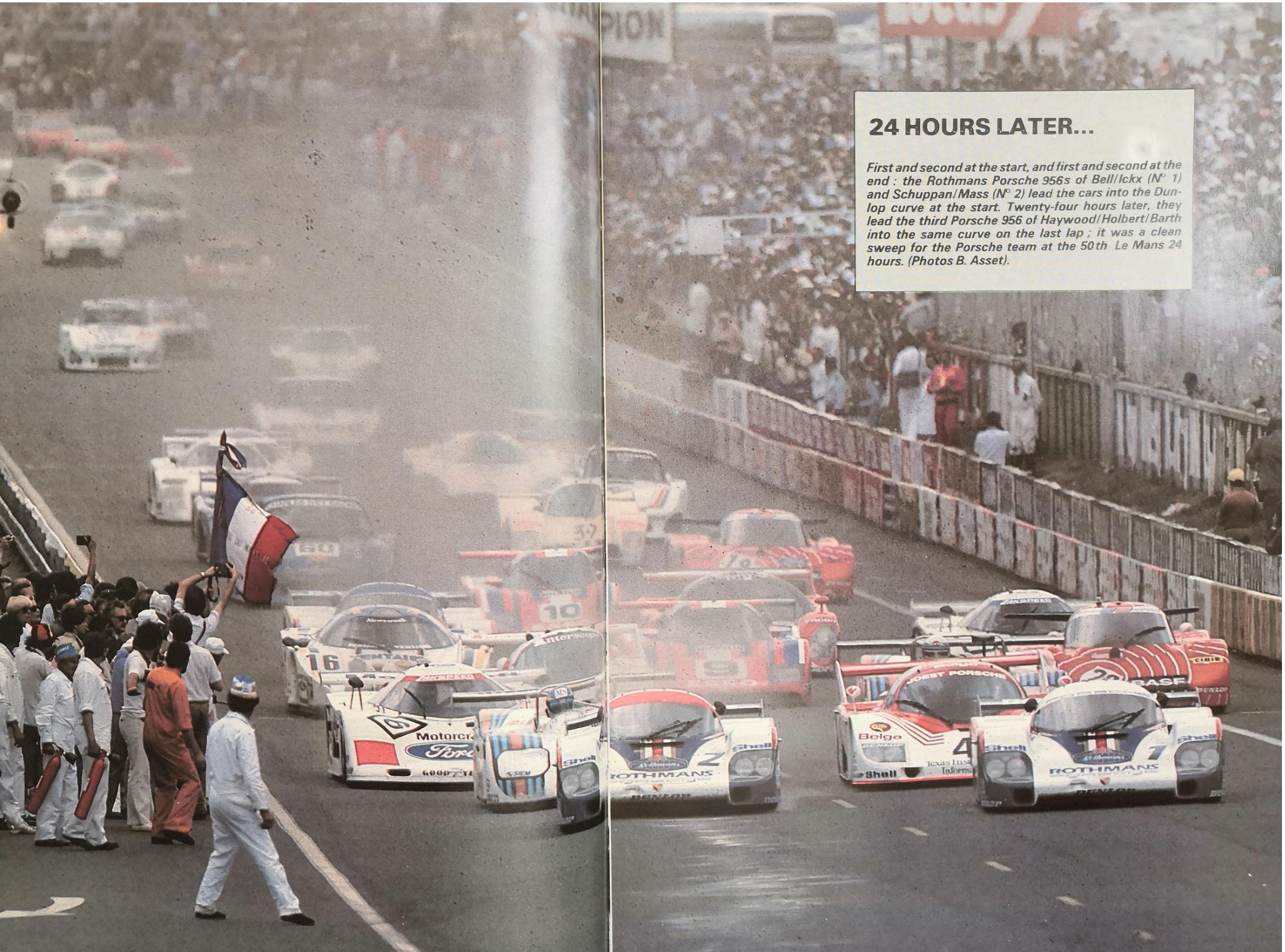


Work horses at night, Crazy House ladies during the day; wish they'd swopped hours! But some of us slept anyway...

Derek Bell was well supported, and played well too.

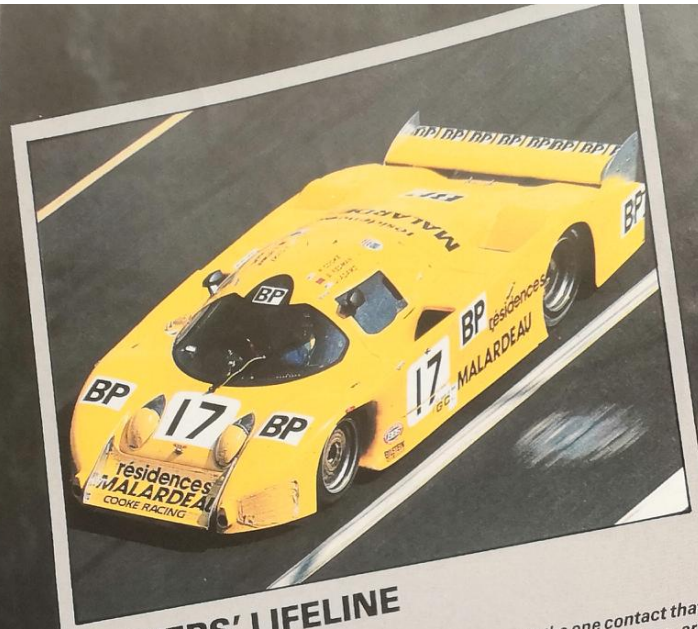
Ford, Porsche and Aston were there but also 917, GT40s and DB3S models.





24 HOURS LATER...

First and second at the start, and first and second at the end : the Rothmans Porsche 956s of Bell/Ickx (N° 1) and Schuppan/Mass (N° 2) lead the cars into the Dunlop curve at the start. Twenty-four hours later, they lead the third Porsche 956 of Haywood/Holbert/Barth into the same curve on the last lap ; it was a clean sweep for the Porsche team at the 50th Le Mans 24 hours. (Photos B. Asset).



DRIVERS' LIFELINE

The signalling pits on the inside of the exit from Mulsanne are the one contact that most drivers have with their pits. It is to here that times and positions are telephoned from the pits, and a separate team of signallers hang out the boards to drivers as they accelerate out of the 40 mph Mulsanne corner towards Indianapolis. They've just braked from around 200 mph for Mulsanne corner ; one of the fastest cars on the straight was the Lola T 610. The version pictured is that of Redman/Cooke/Adams but it ran out of fuel after less than two hours. (Photo : Vandystadt and B. Asset).

TWO SURVIVORS

Few people expected to see the Camaros on Sunday. Their big Detroit V 8s throbbed solidly, but would they last ? But next morning, they were still there, despite a number of stops. Hagan/Felton, leading here, finished 18 th, but the winged version of Brooks/Mc Griff/Williams wasn't classified. *(Photo : B. Asset).*

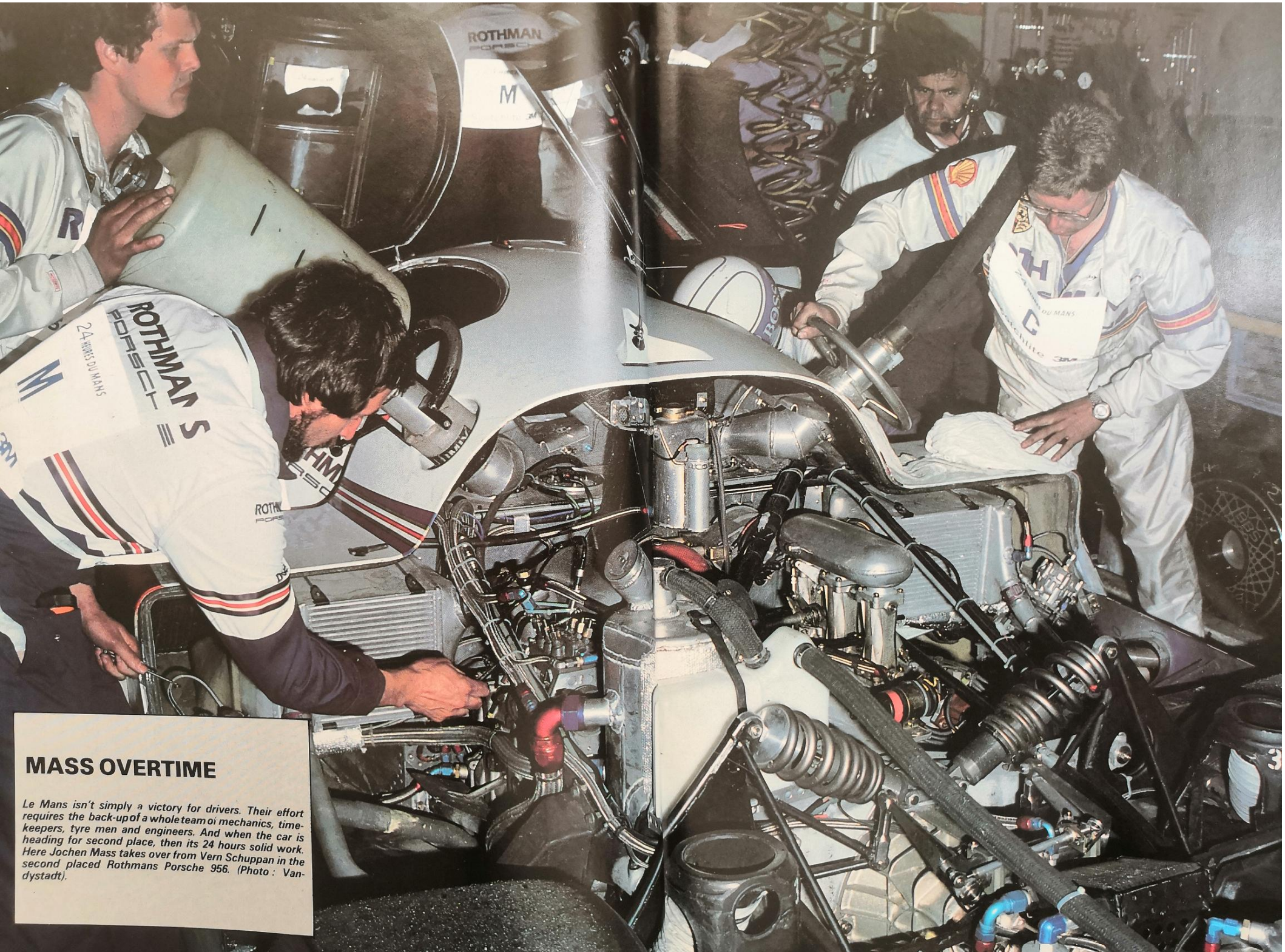
(Photo : Vandystadt).

NIGHT SHOW LIGHT SHOW

The lights go round, those on the track seeking the glory of a good finish, those off the track, just for fun. Wollek and the Martin brothers got their Porsche 936 up to third place until a misfire set in. And with 97 minutes left to run, a piston broke. (Photos : Vandystadt and B. Asset).

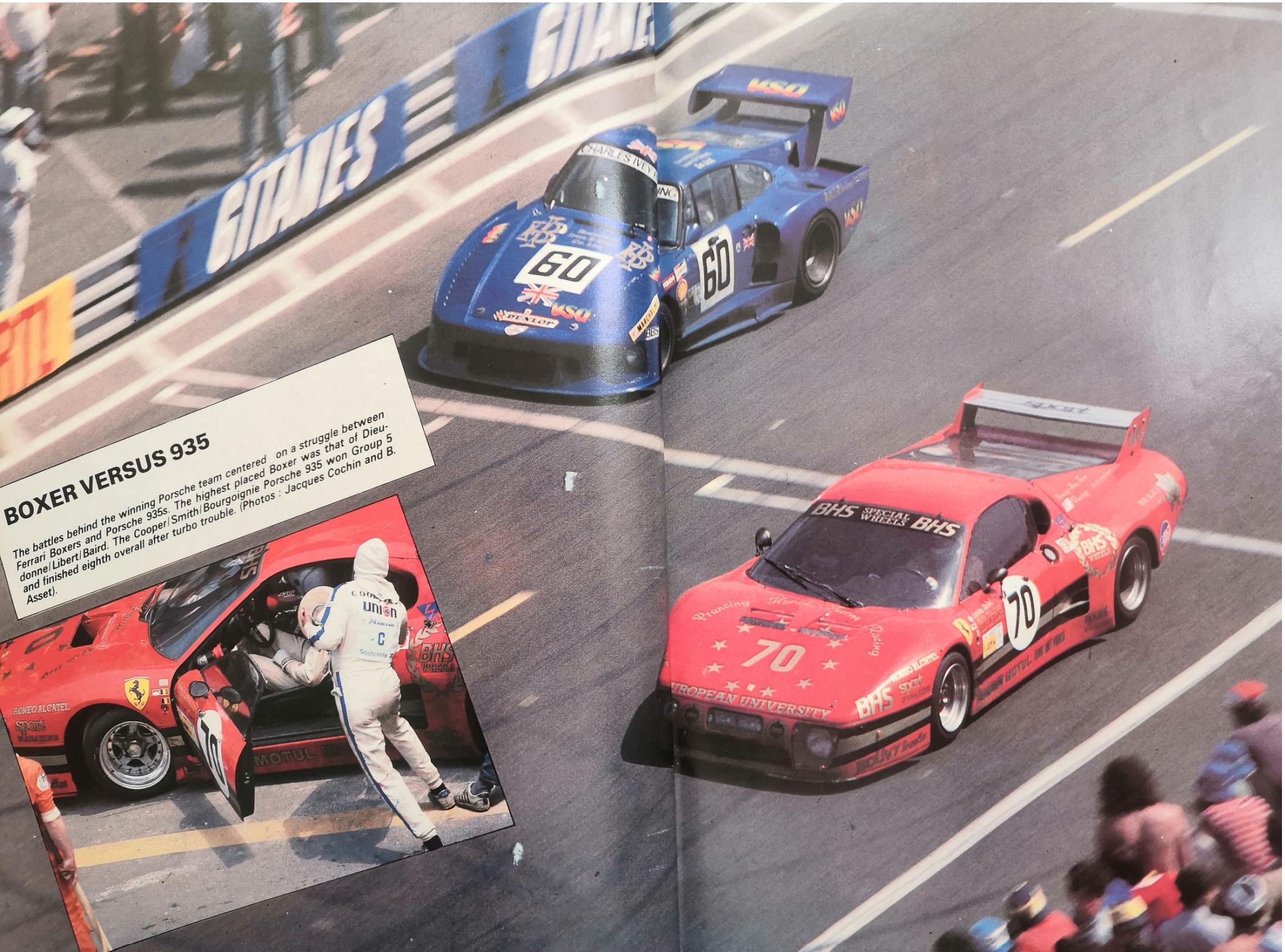
LANCIA IN THE DARK

The sun went down on the Lancia effort even before the start. Piercarlo Ghinzani stopped on the circuit on the pace lap, and teammate Michele Alboreto also stopped within minutes of Luigi Chinetti dropping the flag. Neither car ran higher than 22nd, although Ghinzani/Patrese/Heyer lasted for nearly 15 hours. (Photo : Vandystadt).



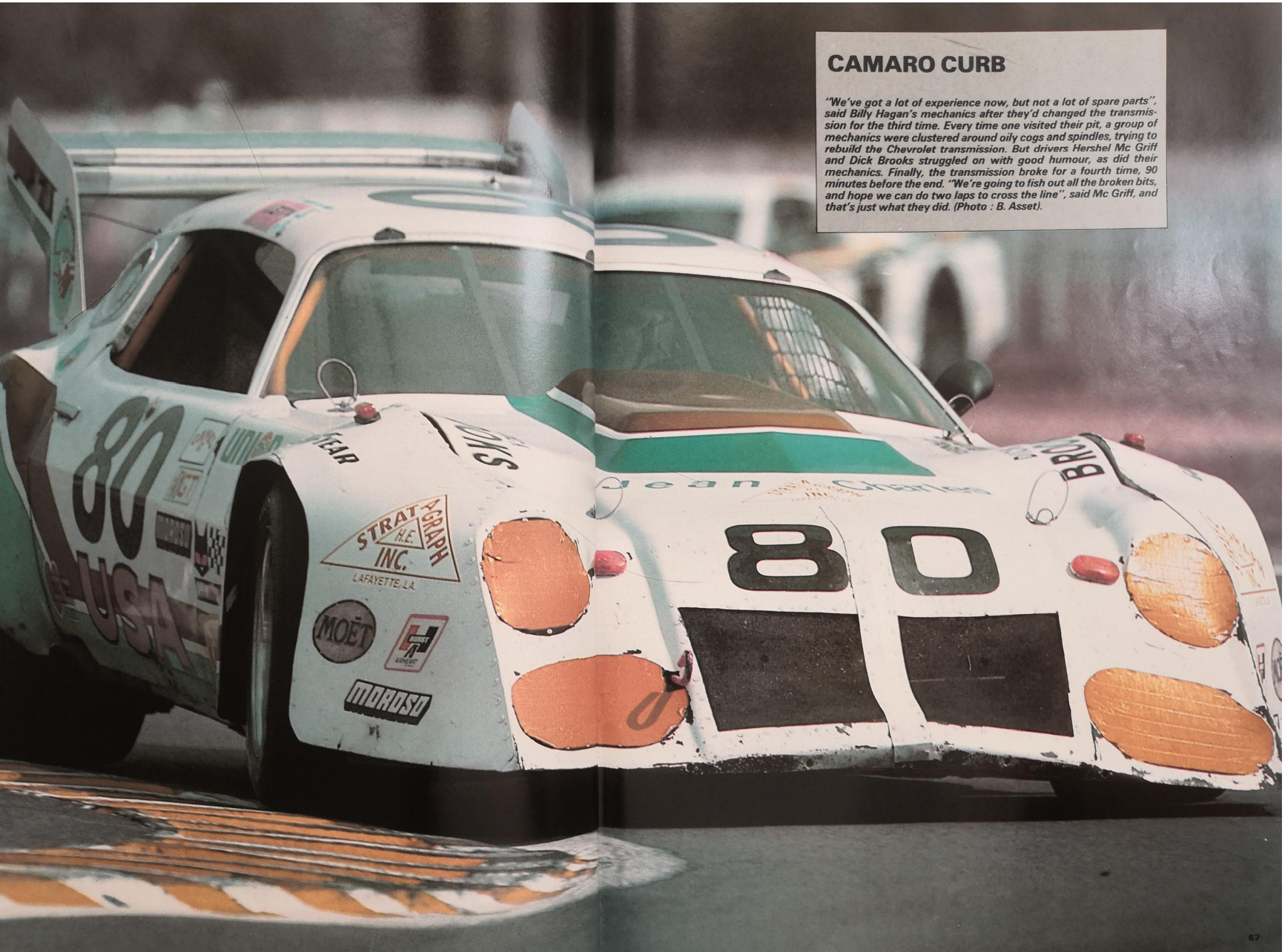
MASS OVERTIME

Le Mans isn't simply a victory for drivers. Their effort requires the back-up of a whole team of mechanics, time-keepers, tyre men and engineers. And when the car is heading for second place, then its 24 hours solid work. Here Jochen Mass takes over from Vern Schuppan in the second placed Rothmans Porsche 956. (Photo : Van-dystadt).



BOXER VERSUS 935

The battles behind the winning Porsche team centered on a struggle between Ferrari Boxers and Porsche 935s. The highest placed Boxer was that of Dieudonne/Libert/Baird. The Cooper/Smith/Bourgoignie Porsche 935 won Group 5 and finished eighth overall after turbo trouble. (Photos : Jacques Cochin and B. Asset).



CAMARO CURB

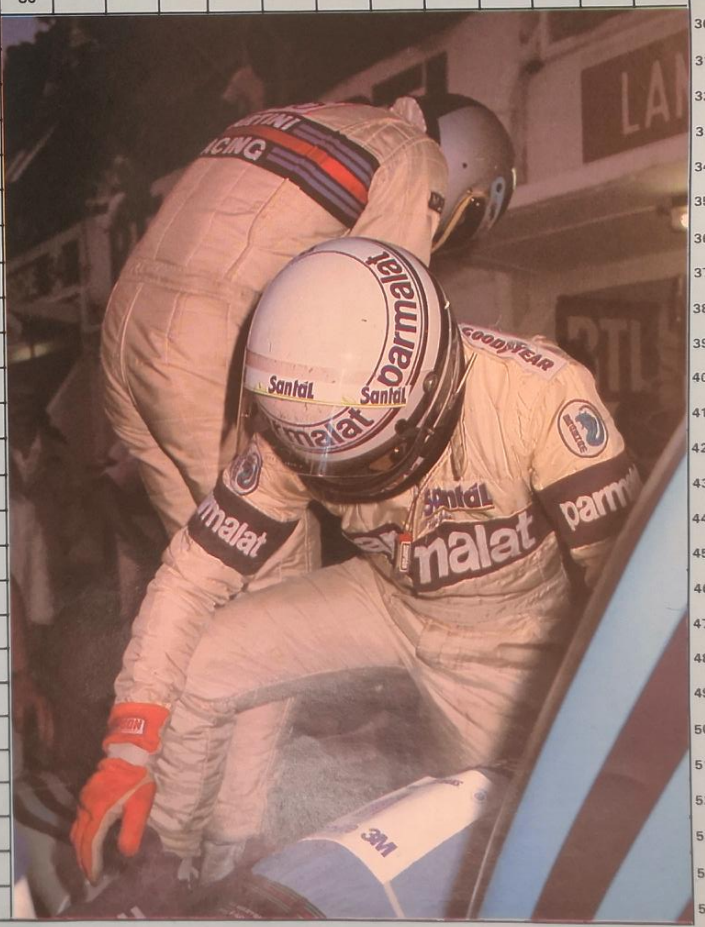
"We've got a lot of experience now, but not a lot of spare parts", said Billy Hagan's mechanics after they'd changed the transmission for the third time. Every time one visited their pit, a group of mechanics were clustered around oily cogs and spindles, trying to rebuild the Chevrolet transmission. But drivers Hershel Mc Griff and Dick Brooks struggled on with good humour, as did their mechanics. Finally, the transmission broke for a fourth time, 90 minutes before the end. "We're going to fish out all the broken bits, and hope we can do two laps to cross the line", said Mc Griff, and that's just what they did. (Photo : B. Asset).

ASTON ON THE PACE

Aston Martin and Lagonda have a long association with Le Mans, this year revitalised by the two Aston Martin/Nimrods. They were running 11 th and 12 th after three hours, but then N° 31 crashed, leaving Mallock/Philipps/Salmon to uphold Aston Martin prestige. Despite a damaged valve, the Viscount Downe-entered car finished a popular seventh. (Photos : B. Asset and Anzemberger).

ur by hour - Hour by hour - Hour by hour - Hour by hour - Ho

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1 - PORSCHE 956 ICKX - BELL	11	11	11	7	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 - PORSCHE 956 MASS - SCHUPPAN	6	6	3	3	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4 - PORSCHE 936 J MARTIN - MARTIN - WOLLEK	24	7	1	1	11	11	11	11	11	11	3	4	4	4	4	4	4	4	4	4	4	4	3	3	3
51 - LANCIA MARTINI ALBORETO - FABI - STOMMELEN	20	1	7	11	2	2	2	2	4	3	4	32	32	32	32	72	72	72	3	3	3	3	4	79	4
50 - LANCIA MARTINI PATRESE - GHINZANI - HEYER	1	2	2	6	20	4	4	4	3	4	32	3	79	79	72	32	32	32	72	72	79	79	79	78	5
6 - FORD C 100 LUDWIG - SURER	16	24	6	9	9	9	32	32	32	32	79	79	72	72	60	60	79	79	32	79	72	72	78	70	6
20 - FORD SAUBER SHS C6 STUCK - SCHLESSER - QUESTER	2	4	24	20	4	32	72	60	12	12	72	72	60	60	79	79	60	60	79	78	78	78	70	32	7
5 - PORSCHE KREMER C 82-K5 FIELD - ONGAIS - WHITTINGTON	3	3	9	4	32	60	60	12	60	79	60	60	78	78	78	78	3	3	78	32	32	32	72	60	8
16 - FORD LOLA T 610 EDWARDS - KEEGAN - FAURE	9	20	20	2	60	79	24	72	79	60	11	78	3	3	3	3	78	78	60	25	70	70	32	72	9
7 - FORD C 100 WINKELHOCK - NIEDZWIEDZ	7	9	4	32	79	24	79	79	72	72	78	25	70	70	70	25	25	25	25	70	60	60	60	25	10
9 - PEUGEOT WM ZNS4 RAULET - PIGNARD - THEYS	4	31	31	60	72	72	12	9	9	78	26	62	25	25	25	70	70	70	70	60	25	25	25	77	11
10 - PEUGEOT WM ZNS4 FREQUELIN - DORCHY - COUDERC	5	16	32	72	26	62	9	78	78	26	62	83	62	62	62	62	62	62	62	77	62	77	77	66	12
3 - PORSCHE 956 HOLBERT - HAYWOOD - BARTH	10	26	79	26	62	78	62	62	62	62	25	70	82	83	77	77	77	77	77	62	77	66	66	90	13
19 - FORD SAUBER SHS C6 BRUN - MULLER	35	32	72	71	24	12	78	26	26	25	12	65	65	77	65	65	82	61	66	66	66	62	90	82	14
11 - FORD RONDEAU M 382 C MIGAULT - SPICE	79	79	60	79	70	26	26	70	38	82	82	77	82	65	82	82	65	66	61	90	90	90	82	38	15
37 - FORD GRID PLAZA S1 DE VILLOTA - DE CADENET - WILSON	31	17	71	31	78	70	70	25	25	70	70	82	77	83	66	61	61	82	90	61	82	82	38	87	16
17 - FORD LOLA T 610 COOKE - REDMAN - ADAMS	30	14	30	24	6	82	82	38	82	65	83	90	90	90	61	66	66	65	82	82	38	38	87	81	17
64 - PORSCHE 935 K3 SPROWLS - CONTRERAS - DOREN	25	72	70	77	81	25	25	82	83	83	65	11	61	61	90	87	87	87	87	87	87	87	81	61	18
36 - FORD DOME RC 82 CRAFT - SALAZAR	70	71	77	70	82	77	38	83	70	77	77	12	66	66	83	90	90	90	65	38	61	81	61		19
60 - PORSCHE 935 K3 COOPER - SMITH - BOURGOIGNIE	7	25	62	62	12	38	83	24	77	38	90	66	87	87	87	38	38	38	38	81	81	61	80		20
24 - FORD RONDEAU M 382 C JAUSSAUD - PESCAROLO	32	64	26	78	16	83	90	65	65	90	75	61	81	81	38	81	81	81	81	80	80	80			21
32 - ASTON MARTIN NIMROD MALLOCK - SALMON - PHILLIPS	76	30	73	81	77	65	65	77	90	9	61	87	38	38	81	50	50	80	80						22
14 - CHEVROLET MARCH WOOD - ELGH - NEVE	60	60	78	25	84	90	77	90	86	86	66	75	50	50	50	80									23
30 - BMW URD C81 LATESTE - HEUCLIN - STRIEBIG	14	62	16	14	83	84	86	86	24	75	87	81	86	86	80										24
31 - ASTON MARTIN NIMROD LEES - NEEDELL - EVANS	62	70	81	82	65	14	81	81	61	61	38	50	35	80											25
75 - PORSCHE 935 J HALDI - TERAN - HESNAULT	81	78	25	75	25	86	10	66	81	66	81	86													27
35 - FORD COUGAR CO1 COURAGE - GRAND-DUBOIS	26	81	64	84	90	75	61	87	66	87	50	35													28
29 - CHEVROLET MARCH 82G RAHAL - TRUEMAN - Mc KITTERICK	72	73	82	65	75	10	66	75	87	50	10	80													29
76 - PORSCHE 935 K3 AKIN - COWART - MILLER	78	39	55	83	38	81	87	10	10	85	35														30
26 - FORD RONDEAU M 379 C HARAN - CANDY - POULAIN	17	55	84	90	86	66	75	51	85	10	80														31
81 - CHEVROLET CAMARO HAGAN - FELTON - WILLIAMS	38	82	39	16	7	16	14	85	51	84															32
78 - PORSCHE 935 K3 SNOBECK - SERVANIN - METGE	80	75	14	12	66	51	84	50	50	35															33
25 - FORD RONDEAU M 379 C YVER - GUITTENY - SOTTY	84	84	83	86	10	61	50	14	36	80															34
38 - FORD RONDEAU M 382 C BUSSI - WITMEUR - DE DRYVER	83	5	65	87	61	7	85	84	14																35
72 - FERRARI 512 BB CUDINI - MORTON - PAUL Sr	73	86	86	85	85	50	36	36	84																36
12 - FORD RONDEAU M 382 C RONDEAU - RAGNOTTI	77	65	90	38	71	87	19	35	35																37
61 - BMW M1 ENNEQUIN - GASPARETTI - GABRIEL	82	83	85	50	55	6	35	80	80																38
70 - FERRARI 512 BB DIEUDONNE - BAIRD - LIBERT	55	87	87	39	51	85	80																		39
71 - FERRARI 512 BB BALLOT-LENA - ANDRUET - REGOUT	87	90	38	66	39	55																			40
86 - PORSCHE 924 MILLER - BEDARD - SCHURTI	86	85	66	61	87	39																			41
77 - PORSCHE 935 K3 VERNEY - GARRETSON - RATCLIFF	39	61	12	30	19	19																			42
62 - BMW M1 O'ROURKE - DOWN - MASON	75	66	50	10	50	36																			43
39 - FORD DE CADENET LM/DRA WILDS - DURET - HARROWER	90	38	61	73	73	35																			44
80 - CHEVROLET CAMARO Mc GRIFF - BROOKS - WILLIAMS	19	80	19	51	64	80																			45
LEMERLE - 66 - LANCIA BETA MC COHEN OLIVAR - CASTELLANO	61	29	10	19	36	29																			46
90 - PORSCHE 934 CLEARE - DRON	65	12	17	64	35																				47
55 - CHEVRON FORD B 36 BIRRANE - CRANG - SHELDON	29	19	29	29	29																				48
82 - MAZDA 254/RX7 TERADA - YORINO - MOFFAT	85	50	51	36	80																				49
73 - FERRARI 512 BB HENN - LANIER - MORIN	66	35	5	80																					50
85 - BMW M1 GARCIA - STIFF - NAON	12	76	80	35																					51
83 - MAZDA 254/RX7 WALKINSHAW - LOVETT - NICHOLSON	37	10	35																						52
65 - LANCIA BETA MC SALAM - PERRIER - GIUDICI	50	51	76																						53
87 - PORSCHE 924 BUSBY - BUNDY - SCHURTI	51	36	36																						54
84 - PORSCHE 924 LLOYD - ROUSE	36																								55



STARTING GRID

1 - PORSCHE 956
3'28"40
Ickx - Bell
4 - PORSCHE 936 J
3'30"65
Wollek - Martin - Martin
50 - LANCIA MARTINI
3'31"78
Patrese - **Ghinzani** - Heyer
20 - FORD SAUBER SHS C6
3'33"25
Stuck - Schlesser - Quester
27 - FORD MIRAGE M 12 (1)
3'37"09
Andretti - Andretti
7 - FORD C 100
3'38"02
Winkelhock - Niedzwiedz
10 - PEUGEOT WM ZNS4
3'39"58
Frequelin - **Dorchy** - Couderc
19 - FORD SAUBER SHS C6
3'40"57
Brun - Muller
37 - FORD GRID PLAZA S1
3'42"77
De Villota - De Cadenet - Wilson
60 - PORSCHE 935 K3
3'44"92
Cooper - Smith - Bourgoignie
32 - ASTON MARTIN NIMROD
3'46"34
Mallock - Salmon - Phillips
30 - BMW URD C81
3'47"62
Lateste - Heuclin - **Striebig**
79 - PORSCHE 935
3'48"50
Fitzpatrick - Hobbs.
64 - PORSCHE 935 K3
3'44"05
Sprowls - Contreras - **Doren**
35 - FORD COUGAR CO1
3'51"62
Courage - Grand - Dubois
76 - PORSCHE 935 K3
3'52"31
Akin - Cowart - Miller
81 - CHEVROLET CAMARO
3'52"59
Hagan - Felton - Williams
25 - FORD RONDEAU M 379 C
3'52"69
Yver - Guitteny - Sotty
72 - FERRARI 512 BB
3'54"07
Cudini - Morton - Paul Sr
61 - BMW M1
3'55"40
Ennequin - **Gasparetti** - Gabriel
71 - FERRARI 512 BB
3'56"80
Ballot-Lena - Andruet - Regout
77 - PORSCHE 935 K3
3'58"84
Verney - Garretson - Ratcliff
39 - FORD DE CADENET LM/DRA
4'00"29
Wilds - Duret - Harrower
66 - LANCIA BETA MC
4'02"58
Lemerle - **Cohen Olivar** - Castellano
55 - CHEVRON FORD B 36
4'04"30
Birrane - Crang - Sheldon
73 - FERRARI 512 BB
4'07"32
Henn - Lanier - Morin
83 - MAZDA 254 - RX7
4'11"29
Walkinshaw - Lovett - Nicholson
87 - PORSCHE 924
4'14"07
Busby - Bundy - Shurti

2 - PORSCHE 956
3'29"32
Mass - Schuppan
51 - LANCIA MARTINI
3'31"42
Alboreto - Fabi - Stommelen
6 - FORD C 100
3'32"50
Ludwig - Surer
5 - PORSCHE KREMER C 82 - K5
3'37"01
Field - Ongais - Whittington
16 - FORD LOLA T 610
3'37"60
Edwards - Keegan - Faure
9 - PEUGEOT WM ZNS4
3'38"06
Raulet - **Pignard** - Theys
3 - PORSCHE 956
3'39"85
Holbert - Haywood - Barth
11 - FORD RONDEAU M 382 C
3'40"71
Migault - Spice
17 - FORD LOLA T 610
3'43"06
Cooke - **Redman** - Adams
36 - FORD DOME RC 82
3'44"12
Craft - Salazar
24 - FORD RONDEAU M 382 C
3'46"00
Jaussaud - Pescarolo
14 - CHEVROLET MARCH
3'47"45
Woods - Elgh - Neve
31 -ASTON MARTIN NIMROD
3'48"17
Lees - Needell - Evans
75 - PORSCHE 935 J
3'50"64
Haldi - Teran - Resnault
29 - CHEVROLET MARCH 82 G
3'51"70
Rahal - Trueman - Mc Kitterick
26 - FORD RONDEAU M 379 C
3'52"36
Haran - Candy - Poulain
78 - PORSCHE 935 K3
3'52"68
Snobeck - Servanin - Metge
38 - FORD RONDEAU M 382 C
3'52"90
Bussi - Witmeur - De Dryver
12 - FORD RONDEAU M 382 C
3'54"81
Rondeau - Ragnotti
70 - FERRARI 512 BB
3'56"52
Dieudonné - Baird - Libert
86 - PORSCHE 924
3'58"65
Miller - Bedard - Schurti
62 - BMW M1
4'00"23
O'Rourke - Down - Mason
80 - CHEVROLET CAMARO
4'00"34
Mc Griff - Brooks - Williams
90 - PORSCHE 934
4'04"08
Cleare - Dron - Jones
82 - MAZDA 254 - RX7
4'04"74
Terada - Yorino - Moffat
85 - BMW M1
4'10"02
Garcia - Stiff - Naon
65 - LANCIA BETA MC
4'12"79
Salam - Perrier - **Giudici**
84 - PORSCHE 924 (2)
4'20'81"
Lloyd - Rouse

(1) Did not start.
(2) 1st reserve, allowed to start following exclusion of No 27.

RESULTS BY GROUP

DRIVER	CAR	LAPS
GROUP C :		
1. Ickx/Bell	Porsche 956	359
2. Mass/Schuppan	Porsche 956	340
3. Haywood/Holbert/Barth	Porsche 956	340
4. Mallock/Phillips/Salmon	Aston Martin Nimrod	317
5. Yver/Sotty/Guitteny	Ford Rondeau M379C	306
6. Bussi/Witmeur/de Dryver	Ford Rondeau M382C	279
GROUP 5 :		
1. Cooper/Smith/Bourgoignie	Porsche 935 K3	316
2. Lemerle/Cohen-Olivar/Castellano	Lancia Beta Monte Carlo	295
3. Ennequin/Gabriel/Gasparetti	BMW M1	259
GROUP 4 :		
1. Cleare/Dron/Jones	Porsche 934	291
GROUP IMSA GTX		
1. Fitzpatrick/Hobbs	Porsche 935	329
2. Snobeck/Servanin/Metge	Porsche 935 K3	325
3. Dieudonne/Baird/Liebert	Ferrari 512BB	322
4. Cudini/Morton/Paul sr.	Ferrari 512BB	306
5. Verney/Garretson/Ratcliff	Porsche 935 K3	299
6. Terada/Yorino/Moffat	Mazda 254/RX7	282
GROUP IMSA GTX		
1. Busby/Bundy	Porsche 924 GTR	272
2. Hagan/Felton	Chevrolet Camaro	269

LE MANS 24 HOURS

Date : June 19/20, 1982
Circuit length : 8,466 miles (13,626 km)
Race distance : 24 hours
Weather : hot and heavy
Attendance : 230.000

RETIREMENTS

No	Time in race	Laps	Reason
37	0h27'39"3	7	Piston
76	1h01'33"1	15	Out of fuel
5	1h38'31"7	25	Head gasket
29	2h28'18"0	28	Damaged fuel tank
17	1h53'13"1	28	Out of fuel
64	2h44'28"3	39	Out of fuel
73	3h05'15"2	43	Out of fuel
30	3h10'03"0	45	Engine
19	4h51'58"4	55	Starter motor
31	3h39'44"5	55	Accident
39	4h29'01"7	56	Out of fuel
55	4h18'46"2	57	Head gasket
71	4h00'20"7	57	Out of fuel
6	4h29'30"7	67	Electrics
7	6h00'08"9	71	Engine
16	5h20'39"6	72	Head gasket
20	5h04'02"1	76	Engine mounting
84	5h47'22"2	77	Disqualified
35	10h09'25"3	78	Driveshaft
14	6h24'14"2	78	Electrics, battery
36	8h48'13"1	85	Suspension mounting
51	7h18'48"9	92	Engine
85	9h32'21"9	104	Accident
24	8h33'14"1	111	Engine
10	10h52'48"3	112	Engine
9	9h10'58"8	127	Gearbox
86	10h03'41"4	128	Lost wheel
75	11h22'15"6	141	Differential
12	10h12'06"0	146	Ignition
26	10h56'10"1	149	Dropped valve
11	9h59'08"2	150	Ignition
50	14h55'49"9	152	No turbo boost
83	13h41'27"4	180	Engine
65	17h25'07"8	219	Disqualified
62	21h07'13"2	266	Engine
4	22h23'56"8	320	Engine

OVERALL RESULTS

DRIVERS	CAR	LAPS	DISTANCE	AVERAGE	GROUP
1. Ickx/Bell	Porsche 956	359	3044.15	126.839	C
2. Mass/Schuppan	Porsche 956	356	3018.72	125.779	C
3. Haywood/Holbert/Barth	Porsche 956	340	2883.32	120.134	C
4. Fitzpatrick/Hobbs	Porsche 935	329	2788.81	116.20	IGTX
5. Snobeck/Servanin/Metge	Porsche 935	325	2753.79	114.74	IGTX
6. Dieudonne/Baird/Liebert	Ferrari 512 BB	322	2726.44	113.60	IGTX
7. Mallock/Phillips/Salmon	Aston Martin Nimrod	317	2684.93	111.87	C
8. Cooper/Smith/Bourgoignie	Porsche 935 K3	316	2676.43	111.51	5
9. Cudini/Morton/Paul sr.	Ferrari 512 BB	306	2599.06	108.29	IGTX
10. Yver/Sotty/Guitteny	Ford Rondeau M379C	306	2596.11	108.17	C
11. Verney/Garretson/Ratcliff	Porsche 935 K3	299	2532.01	105.50	IGTX
12. Lermerle/Cohen-Olivar/Castellano	Lancia Beta MC	295	2504.14	104.33	5
13. Cleare/Dron/Jones	Porsche 934	291	2466.97	102.79	4
14. Terada/Yorino/Moffat	Mazda 254/RX7	282	2394.46	99.77	IGTX
15. Bussi/Witmeur/de Dryver	Ford Rondeau M382C	279	2370.14	98.75	C
16. Busby/Bundy	Porsche 924	272	2307.88	96.16	IGT
17. Hagan/Felton	Chevrolet Camaro	269	2280.69	95.03	IGT
18. Ennequin/Gabriel/Gasparetti	BMW M1	259	2200.39	91.68	5
Not classified, insufficient distance covered :					
Brooks/McGriff/Williams	Chevrolet Camaro	141	1197.33	49.88	IGT

THEIR FASTEST RACE LAPS

Nr	CAR	TIME	LAP	M.P.H.
12	FORD RONDEAU M 382	3'36.9	69	140.527
16	FORD LOLA T 610	3'37.4	18	140.204
11	PORSCHE 956	3'37.5	6	140.139
2	PORSCHE 956	3'38.6	25	139.434
10	PEUGEOT WM	3'39.8	67	139.180
6	FORD C 100	3'40.0	46	138.547
11	FORD RONDEAU M 382	3'40.1	77	138.484
3	PORSCHE 956	3'40.1	260	138.484
7	FORD C 100	3'40.3	6	138.358
9	PEUGEOT WM	3'40.6	2	138.170
17	FORD LOLA T 610	3'41.1	7	137.858
5	PORSCHE C82 - K5	3'42.1	3	137.237
50	LANCIA MARTINI	3'42.6	42	136.929
4	PORSCHE 936 C	3'43.0	7	136.683
24	FORD RONDEAU M 382	3'43.5	4	136.377
20	FORD SAUBER SHS C6	3'43.5	52	136.379
36	FORD DOME RC82	3'43.9	11	136.134
19	FORD SAUBER SHS C6	3'44.6	46	135.710
51	LANCIA MARTINI	3'45.2	52	135.348
31	ASTON MARTIN NIMROD	3'46.0	26	134.869
29	CHEVROLET MARCH 826	3'46.3	16	134.690
79	PORSCHE 935	3'46.8	3	134.393
14	CHEVROLET MARCH 82 G	3'48.6	71	133.335
37	FORD GRID PLAZA S1	3'49.8	6	132.639
38	FORD RONDEAU M 382	3'49.9	76	132.581
26	FORD RONDEAU M 379 C	3'50.8	22	132.064
32	ASTON MARTIN NIMROD	3'50.9	8	132.007
60	PORSCHE 935 K3	3'51.7	4	131.551
25	FORD RONDEAU M 379 C	3'52.3	37	131.211
64	PORSCHE 935 K3 T	3'53.9	7	130.319
35	FORD COUGAR C01	3'54.5	3	129.980
72	FERRARI 512 BB	3'55.5	201	129.428
30	BMW URD C81	3'55.7	14	129.318
71	FERRARI 512 BB	3'56.4	29	128.935
78	PORSCHE 935 K3	3'57.0	194	128.609
77	PORSCHE 935 K3	3'57.8	44	128.176
62	BMW M1	3'59.2	60	127.426
70	FERRARI 512 BB	3'59.7	205	127.160
76	PORSCHE 935	4'00.0	10	127.002
81	CHEVROLET Camaro	4'00.9	58	126.527
73	FERRARI 512 BB	4'01.2	37	126.370
80	CHEVROLET Camaro	4'03.2	76	125.330
39	FORD DE CADENET LM/DRA	4'04.4	5	124.715
85	BMW M1	4'05.8	41	124.409
75	PORSCHE 935	4'06.2	42	123.803
90	PORSCHE 934	4'08.5	43	122.657
65	LANCIA BETA MC	4'08.7	218	122.559
66	LANCIA BETA MC	4'09.6	49	122.116
84	PORSCHE 924	4'11.5	70	121.194
61	BMW M1	4'12.1	208	120.905
83	MAZDA 254/RX7	4'13.5	3	120.238
82	MAZDA 254/RX7	4'15.2	66	119.437
55	CHEVRON FORD B 36	4'15.7	36	119.203
87	PORSCHE 924	4'20.6	60	116.962
86	PORSCHE 924	4'23.3	53	114.520

PREVIOUS WINNERS

Year	Drivers	Speed mph
1923 Chenard & Walcker	Lagache/Leonard	57.21
1924 Bentley 3-Litre	Duff/Clement	53.78
1925 La Lorraine	Rossignal/de Courcelles	57.84
1926 La Lorraine	Rossignal/Bloch	66.08
1927 Bentley 3-Litre	Benjafield/David	61.35
1928 Bentley 4 ½-Litre	Barnato/Rubin	69.11
1929 Bentley Speed Six	Barnato/Birkin	73.63
1930 Bentley Speed Six	Barnato/Kidston	75.88
1931 Alfa Romeo 8C-2300	Howe/Birkin	78.13
1932 Alfa Romeo 8C-2300	Sommer/Chinetti	76.48
1933 Alfa Romeo 8C-2300	Sommer/Nuvolari	81.40
1934 Alfa Romeo 8C-2300	Chinetti/Etancelin	74.73
1935 Lagonda M45R	Hindmarsch/Fontes	77.84
1937 Bugatti 57G	Wimille/Benoist	85.12
1938 Delahaye 135M	Chaboud/Tremoulet	82.35
1939 Bugatti 57G	Wimille/Veyron	86.85
1949 Ferrari 166MM	Chinetti/Selsdon	82.28
1950 Talbot-Lago	Rosier/Rosier	89.71
1951 Jaguar C	Walker/Whitehead	93.49
1952 Mercedes-Benz 300SL	Lang/Reiss	96.66
1953 Jaguar C	Rolt/Hamilton	105.84
1954 Ferrari 375	Gonzales/Trintignant	105.14
1955 Jaguar D	Hawthorn/Bueb	107.06
1956 Jaguar D	Flockhart/Sanderson	104.46
1957 Jaguar D	Flockhart/Bueb	113.84
1958 Ferrari 250TR58	Gendebien/Hill P.	106.20
1959 Aston Martin DBR1	Shelby/Salvadori	112.56
1960 Ferrari 250TR59/60	Gendebien/Frere	109.19
1961 Ferrari 250TR61	Gendebien/Hill P.	115.90
1962 Ferrari 250P	Gendebien/Hill P.	115.24
1963 Ferrari 250P	Scarfiotti/Bandini	118.10
1964 Ferrari 275P	Guichet/Vaccarella	121.56
1965 Ferrari 250LM	Rindt/Gregory	121.09
1966 Ford Mk 2	Amon/McLaren	125.38
1967 Ford Mk 4	Gurney/Foyt	135.48
1968 Ford GT40	Rodriguez/Bianchi	115.28
1969 Ford GT40	Ickx/Oliver	129.40
1970 Porsche 917	Herrmann/Attwood	119.29
1971 Porsche 917	Marko/van Lennep	138.13
1972 Matra-Simca MS670	Pescarolo/Hill G.	121.46
1973 Matra-Simca MS670B	Pescarolo/Larrousse	125.67
1974 Matra-Simca MS670B	Pescarolo/Larrousse	119.26
1975 Gulf GR8 Ford	Ickx/Bell	118.98
1976 Porsche 936	Ickx/van Lennep	123.49
1977 Porsche 936	Ickx/Barth/Haywood	120.95
1978 Renault-Alpine A442	Jaussaud/Pironi	130.60
1979 Porsche 935-K3	Ludwig/Whittington/Whittington	108.10
1980 Rondeau M379B Ford	Jaussaud/Rondeau	119.22
1981 Porsche 936-81	Ickx/Bell	124.93

NOTE : *World Endurance Championship regulations require that the name of the engine precede that of the car's constructor.*

THE BRITISH: PRIVATEERS TRIUMPH

Most of the British works teams fared no better than their Continental counterparts. The works Ultramar/Newsweek Lola was a strong challenger in the opening stages but retired with a blown head gasket. The works March fared little better but lasted longer, but the Nimrod Aston ran very well until it crashed after 3 1/2 hours. However John Fitzpatrick Racing brought home their five cylinder Porsche 935 in fourth place and first in the IMSA GTX class, Viscount Downe's Aston Martin Nimrod finished an honourable seventh, John Cooper's Charles Ivey-entered Porsche 935 won Group 5 and finished eighth, while Richard Cleare's six-year-old 934 finished 13 th. To finish Le Mans is always an achievement, and all those teams have reason to be proud.

by Bob Constanduros

NIMROD : THE GAME HUNTER

Viscount Downe had scarcely moved from his position standing on the number 32 pit counter for the last ten hours. Wearing a floppy deer-stalker, a tie and with a sophisticated motor-drive camera round his neck, he looked considerably more respectable than the tired mechanics grabbing sleep in the pit behind him. On the terraces across the track, fans had already begun to gather to cheer his car over the last few hours.

In a demonstration of bristling efficiency, Victor Gauntlett, the head of Pace Petroleum, one of the partners in Nimrod Racing Automobiles and a major shareholder in Aston Martin, appeared at the Viscount's feet. His Lorship bent down for a brief conversation. *"You and I,"* said Gauntlett, *"will go and push the bloody thing home if we have to."* There were still 90 minutes to go.

That wasn't quite necessary, but in the final hour, the car slowed considerably. It hadn't been in the best of health since eleven in the morning. After nearly 19 hours, *"the engine suddenly went flat when Ray was driving,"* said fellow driver Simon Phillips, *"so we've changed the plugs, distributor and rotor arm."* At the same time, part of the rear body support broke, and the distributor was found to be at fault. But that wasn't the problem. Although a valve was suspected, the fuel pressure relief valve was changed too, but two hours later, there was no sign of any improvement. *"We could bring it into the pits,"* said team manager Richard Williams, *"and work on it for half an hour, but there's no guarantee it would get any better."* With just over two hours to go, the engine died altogether, but Ray Mallock managed to get it back to the pits. There was no fuel pressure, so two valves were fitted which gave 80 psi pressure instead of 100 psi. The team suspected that they had run the engine so weak for fuel consumption that it had caused the exhaust valves to fail.

The Aston plodded on, one of the walking wounded which are always present at Le Mans. There was the misfiring Belga Porsche 936 C to keep it company, and two five-cylinder Porsche 935 s. The biggest threat to its position was John Cooper's Porsche 935 a couple of laps back, now going like a train after a turbo change, but although the Porsche unlapped itself once, the Nimrod Aston Martin finished in seventh place once Wollek's Porsche had been discounted.

It was clearly a good position, but Phillips reflected the team's feelings : *"if you'd said to me at the beginning of the race that I was going to finish seventh, I would have been over the moon. But the fact that we were fourth for so long and promised to be third means that there isn't the elation within the team that I expected. It's a bit of an anti-climax."*

The weekend with the two Nimrods started with the usual scrutineering hassles, but after practice, the cars were in 23 rd and 26 th place, the Viscount Downe-owned car ahead of the works machine. Amongst the Pace mechanics, there was elation. *"I suppose there is competition between the two teams,"* said Phillips, *"I wasn't very happy about it because while I understand the reasons for it, it seems to me that the only thing better than one Aston finishing high up at Le Mans would be two Astons finishing well."*

But order was restored once the race started. By the second hour, the Needell/Evans/Lees version was in eleventh place and the Pace car was in 14 th. At three hours, the Pace car had caught up to 12 th. During pit stops, the cars were running even higher.

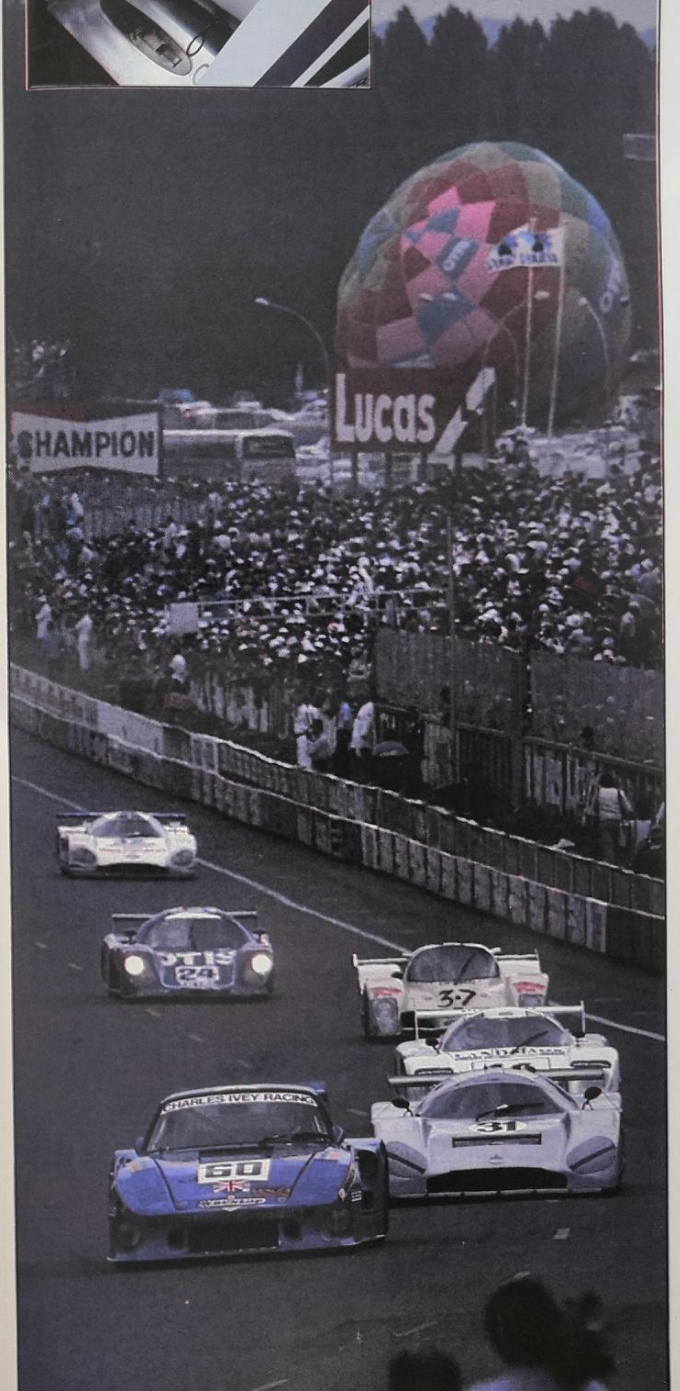
But just after the 3 1/2 hour mark came a report that the works car had crashed on the straight. The driver was unhurt but the car was stationary across the track. A course car went out and returned 20 minutes later with Needell. *"Wow, that was a biggy,"* said Tiff as he hurried off to reassure his team. *"I don't know what happened : either a tyre or the rear suspension broke."* The rear of the car took the main impact which splayed the rear wheels. There was no question of trying to continue.

By the nine hour mark, the remaining Aston Martin Nimrod had been steadily picking up places and was in sixth place, despite Mallock complaining of being overtaken by Ferraris on the straight, and *"it's drinking oil, perhaps it knows we've got it for free."*

At half distance, it was classified in a superb fourth place, and there it remained for another three hours. An eight minute stop for a general check, and a change of cracked brake discs (often a problem in cold air with heavy braking) dropped the car one place despite the 25 minute stop. *"The car was really going so well and at ten in the morning we were really going quickly. We knew that Wollek's engine was rough and the third works Porsche was 13 laps behind us. We were really starting to count our chickens, which clearly we shouldn't have done. We thought we were going to be third",* reflected Phillips, *"and it isn't the first time at Le Mans that one's plans have gone astray."*

Shortly after the 18 hour mark, the engine went flat. Pit stops dropped the car to sixth, then to eighth, and even to ninth, but its final result was seventh.

For Phillips, the engine had always been the unknown. *"I knew how well the detailed development of the car had gone since we took delivery, and I had every confidence in the development and preparation. The engine was the unknown. A lot of people felt that the Aston V 8 wouldn't last and I guess there has to be a slight question mark because of the trouble towards the end. But we had no problems with fuel consumption as long as we weren't reckless and watched the laps. There was never any threat of being tripped up. As a team, we've been together for five or six years now, the mechanics work extremely well together, and we have a brilliant team manager in Richard Williams. Morale is always extremely high and morale moves mountains."*



Works Lola** (left), **Cooper's Porsche, the Astons and GRID : mixed fortunes.

When the Aston crossed the line for the last time, Union Jacks fluttered throughout the crowds. The team may not have been as delighted as they would have liked, but loyal fans all over the circuit displayed their pleasure in red, white and blue.

PRIVATEERS AT THE FLAG

Fitzpatrick Racing in fourth, Charles Ivey Racing in eighth and Richard Cleare in 13 th : it was a good weekend for some of Britain's private teams. They might have been joined by the Michael Cane-prepared EMKA Productions BMW M1 but for retirement with less than three hours to go.

John Fitzpatrick is now somewhat expatriot. He lives in San Diego, as does his team manager Tim Schenken. To complete the trio of ex-Jaguar XJ12 drivers at Le Mans, David Hobbs was second driver with Fitz. As well as the drivers, there were around 20 people involved with the team from America, and ten from England. *"I brought my two New Zealand and four American mechanics and everyone else who came here did something".*

The only thing they didn't bring was a car. *"J. David, our sponsor in IMSA in the States, wanted us to do Le Mans, and wanted us to do it in a Porsche. He likes them. He wants us to race them. We couldn't get a Group C works Porsche. Jost and Kremer couldn't build us a Groupe C, so I decided to have a Moby Dick built because I knew it was very fast in a straight line. I've said all along that after the factory cars, we had the next best chance. That might have sounded optimistic, but I never expected those 3.9 litre Cosworths to last."*

Rheinhold Jöst delivered the car to the team at Le Mans. It had never turned a wheel before then. It got progressively better throughout practice and started from 27 th on the grid. *"We had a plan of action for the race, there's no doubt about that. Our run in the race didn't follow that plan, it never does. At the start, we saw the others going hard, but we set our times right from the word go, and that was obviously wrong."* The car made its first appearance in the top ten after five hours. At half distance, it was up to

sixth. An hour later it was in fifth behind two works Porsches, the 936 and the Nimrod.

But at 6.15 in the morning, the car came into the pits with what sounded like a bad attack of asthma. *"We're finished,"* muttered Schenken, *"that's it, it's the end. The head gasket's blown."* But it wasn't the end. The mechanics isolated number three cylinder by disconnecting the injection to that cylinder and out it went again. *"Even with five cylinders,"* said Fitz, *"we could run as quickly as we'd been running before anyway. To get through on fuel, we could't go faster than 3 m 50 s and then we could do 14 laps."*

David Hobbs, always good for a quote, reckoned that : *"Porsche engines are a bit like aeroplane engines : they run on air and hope and that's it really. Mind you, I remember Brian Redman in 1976 winning the Daytona 24 hours with a BMW which also ran on five cylinders from about five in the morning and he ran that flat out and won the bloody race !"*

So they joined the Bob Garretson Porsche 935 in the five cylinder race and on they went.

They did drop a couple of places, but with three hours to go, Fitz had just one problem : *"I've been coming here for ten years and I've been fifth twice. And with about two hours to go, I thought we were going to be fifth again, but then we were lucky and poor old Bob dropped out. In a way, I feel that we've won. After all, it was Porsche versus the rest, and we won the rest."*

Four places behind the fourth-placed, IMSA-winning Fitzpatrick Porsche was the Groupe 5 winning Charles Ivey Porsche 935. Driven by John Cooper/ Paul Smith/Claude Bourgoignie, it was a car that had a reputation to keep up. Last year, it was only thanks to Bourgoignie that they got an entry at all, but they finished fourth.

They were pleased to be 21 st quickest after practice. Running quietly and calmly, with three perfectly matched drivers, the car made its first appearance in the top ten after five hours. Ten hours later, it was up to sixth, but suffering a slight misfire. Fitzpatrick's Porsche nudged it back to seventh but just after ten in the morning, Bourgoignie brought the car in with no boost pressure. The car sounded fine, and there was none of the telltale white smoke of a broken turbo. But there was still no boost. Cooper tried it with the same result. Engineer Schmidt of Porsche suggested a change of the piping system but it was a wrong turning. Finally the willing Charles Ivey mechanics changed a turbo, and found part of a vane had been chipped. The car was restored to peak health, but the operation had taken 75 minutes from beginning to end, and the car had dropped to 11 th. By the end, though, the drivers had climbed back up to eighth, and nearly took seventh off the Aston Martin.

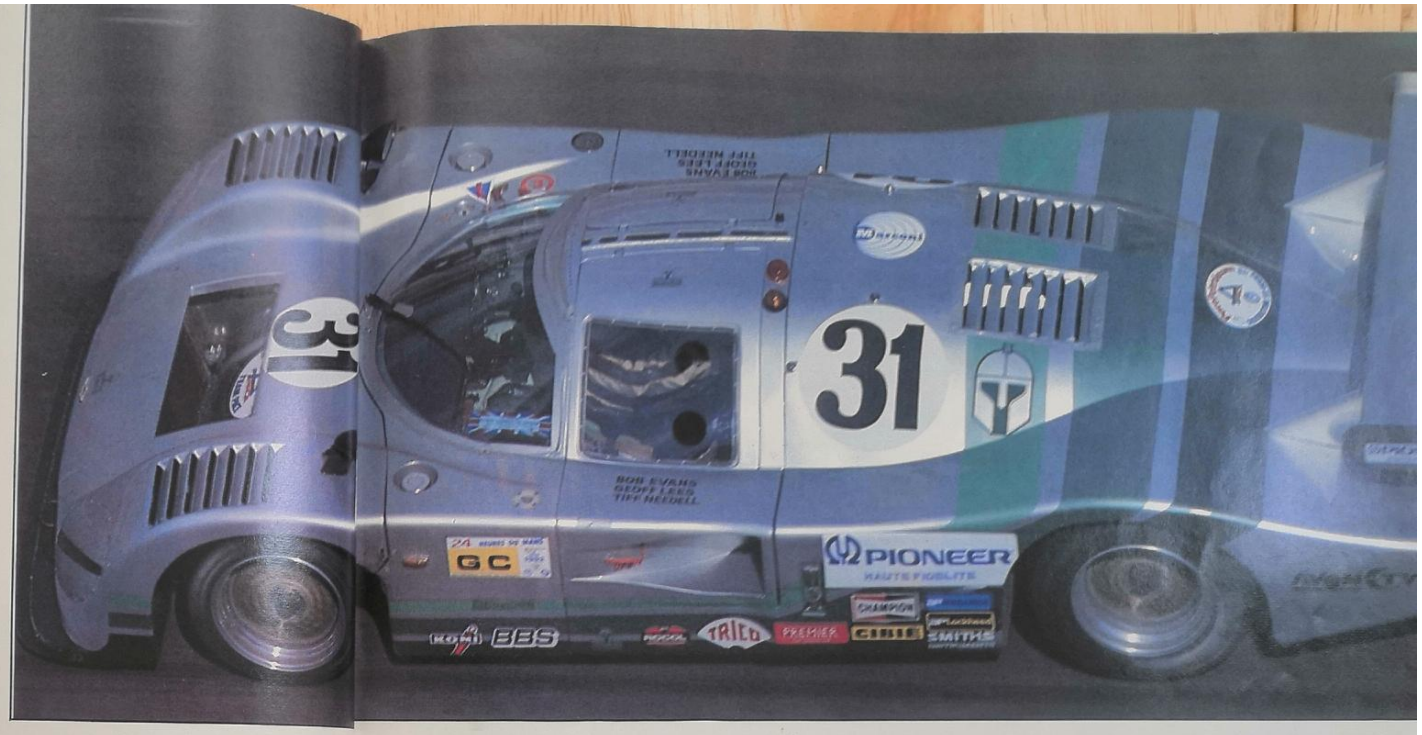
But as Cooper relaxed in his Travel Cruiser motorhome, he reflected on his drop in position.

"We haven't finished at all this year, so coming eighth means that we have done so finally. The factory Porsches are a problem, they're too perishing good. The whole race boiled down to reliability for us which we thought we'd got for this one. And we have a very good crew. With them and similar drivers, we can be on a par with the other 935s. But it means a lot do well here. We're definitely going to keep coming here ad infinitum until either Jacky Ickx retires or we win the damn thing. There's always next year, isn't there ?"

As well as winning Group 5 and IMSA GTX, the British also won Group 4. It wasn't difficult, Richard Cleare's six-year-old Porsche 934 was the only car entered in the class. *"It's a feat I never imagined I could realise with a car of that age on my first visit to Le Mans. The car is much-loved and much re-worked and disregarding some of the factory instructions, it's quite a different car to the one which they turned out initially. We've had five class wins in races, but I couldn't believe this. I'm expecting a crease across the roof of the thing soon. It's just asking too much of the original shell."*

Cleare, Tony Dron and Richard Jones did have their problems. They had a puncture and plug trouble in the early stages. *"It had so little power"*, said Dron, *"and was so slow that I thought if it goes on like this, it's going to be more like 24 hours in a Marina on the M1."* During the night, the team had to lift once on the straight for turbo reasons, and they lost time with a driveshaft check which later resulted in them needing new units. And Jones had a nasty shock when his lights suddenly went out altogether in the Esses and they lost ten minutes repairing the fault. Otherwise it was a steady run into a rewarding 13 th place.

For the Michael Cane BMW M1 team, it was immensely disappointing to be put out three hours from the end. From 44 th on the grid, Steve O'Rourke, Nick Mason and Richard Down had a steady run through to 12 th place after six hours before O'Rourke suffered a blow-out on the Mulsanne straight - *"an unscheduled puncture"* : Cane - which knocked them back a place. *"Richard Down was an ace in the night,"* said O'Rourke. They were up to 11 th again at half distance, but a change of crankshaft damper cost them 15 minutes and another place shortly afterwards. Problems with the clutch meant that they were bleeding it at every stop but it might have to be changed. At the 19 hour mark, the car came into the pits where the clutch, pressure plates and slave cylinder were changed in 60 minutes. The car dropped only one place thanks to retirements. But just after the 21 st hour, O'Rourke braked for Mulsanne : *"I changed down, fourth and then second and the engine went bang. That was it. It had decided that it had had enough. It was a shame. I was having my most enjoyable drive of the race, I seemed to the overtaking everything."* But they'll be back, says O'Rourke, with a Group C car next year.



THE MANUFACTURERS : LITTLE LUCK

Lola and March, with one car each from the factory and another run by an American team, were tackling their second and first Le Mans respectively. In terms of machinery, the Lola looked a sleek and promising machine that would look totally at home at Le Mans. The Chevrolet-powered Marchs looked large in comparison.

Guy Edwards' works Lola started from a promising tenth on the grid after failing to improve on the second day of practice while the Cooke Racing version of Ralph Cooke/Brian Redman/ Jim Adams was 18th. The Marchs, on the other hand, were lower down. Eje Elgh/Patrick Neve/Jeff Wood were 24th on the grid, and the American version to be driven by Bobby Rahal/ Skeeter McKitterick/

Jim Trueman was only 30th, after a flash fire in the garage put out by a powder extinguisher had resulted in dust in the fuel system.

Guy Edwards' Lola, which he was sharing with Rupert Keegan with reserve driver Nick Faure, figured the best in the race. During the early laps, Edwards put the car right behind the works Porsches, following them closely at over 200 mph down the Mulsanne straight. No British car ran higher in the race. *"We even lead for a couple of laps when the Porsches stopped,"* said Edwards. At the hour mark they were sixth, but in the second hour, there was an unscheduled pit stop to try and stop the doors 'belling'. At the scheduled stop, the starter motor wouldn't work and only with a second motor would the engine start. By the fourth hour they were back to 32nd. There had been a rather chaotic stop when Keegan had pitted and thrown part of the radio out of the window and continued. *"Instead of just slinging it out of the window,"* said a rather disgrunted Eric Broadley, *"he had to come into the pits !"*

But they were up to 21st by the five hour mark. There the progression stopped. At 5hrs 20m the car came into the pits with a blown head gasket and was retired. *"It must be something more drastic than that,"* said Edwards. *"Probably a warped head or something."* With that, he headed off to treat his sponsors to a night in the funfair.

The American Lola fared no better. It started late having stalled on the grid when the high pressure fuel pump packed up but was in 31st position at the end of the first hour, and up to 16th at the end of the second. By the end of the third hour, it was parked out on the circuit, having run out of petrol. *"We worked out that we could do 7.1 mpg which meant that we could do 18 laps, but it ran out of petrol after 16,"* said a puzzled Brian Redman. In a nearby packing case, two of the team's blondes were having a beer and sandwich party. There seemed little else to do.

Half an hour after the Lola retired, the Garretson March-Chevrolet was retired. It had suffered fuel problems from the start, first of all with an air lock and later it would only run on half a tankfull. The problem was traced to a faulty fuel bag, probably another legacy of the fire in the paddock. It never ran higher than 46th.

The works March fared better. Seventeenth in the second hour, it dropped to 33rd in the third when the clutch hydraulics had to be bled. *"What's more, we seem to be slinging wing mirrors off around the French countryside,"* said team manager Gordon Horn.

Another stop for a new exhaust gasket, more attention to the clutch and a new nose dropped them a couple of places, but just before the sixth hour, Elgh was reported stopped on the Mulsanne straight. *"The wire from the battery to the starter solenoid had melted. I couldn't see what I was doing in the dark, and the marshals were very strict and wouldn't lend me a torch. But I got it repaired only to find that the battery was flat, so that was that"*. *"At least it had run for longer than any March has done in Europe this year"*, said a departing Horn.

THE ONE-OFFS : OVER BEFORE IT HAD BEGUN

Both GRID and Dome had extremely unfortunate outings. They qualified well, but the problems started in the warm-up. The GRID appeared to suffer some engine damage and the gear ratios were too short. Neither were changed, and the car went out with a damaged piston after a mere seven laps.

The Dome story is somewhat longer. *"Going through the kink, I had a tyre burst"*, explained Eliseo Salazar whose face showed that he hadn't enjoyed the experience. For Dave Sims, John Macdonald and the mechanics, the question was whether the suspension had been damaged. It took some time for the Dome to be returned and then the team lost around 20 seconds (it could have been more) while the mechanics gained inspiration for the job ahead from the all-revealing side view of the girls from the Crazy Horse Saloon in Paris. The damage to the Dome was considerable, and more importantly, vital spare parts were in Japan. However, the car was presented for scrutineering fractionally before the 2.45 pm deadline and was passed. *"I think the scrutineer knew that it wasn't really finished"*, said a team member, *"but they trusted us to finish the job once the race had been started"*.

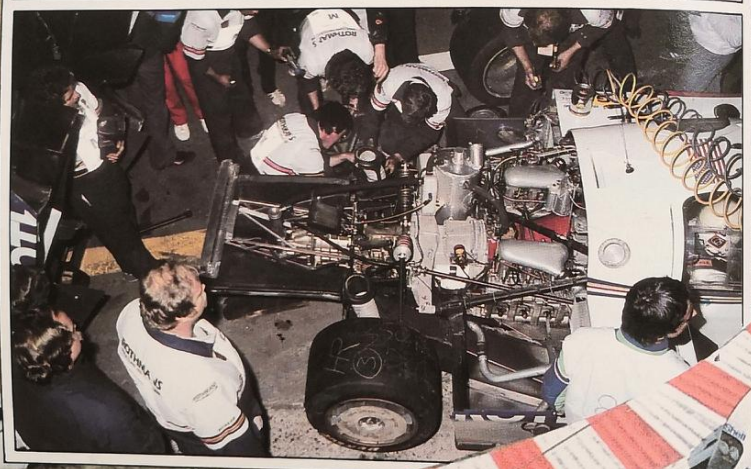
And that's just what happened. The Dome came straight into the pits at the end of the first lap and the work was restarted. Only after 2hrs 15m did it go out again. The clutch slave cylinder broke and as did the alternator but after six hours, the car was fourth from last. It never completed the seventh hour. *"The plate that carries the rear suspension on the back of gearbox has broken, and the spare is in Japan"*, explained Dave Sims. It was poor reward for the mechanics, but perhaps they found the Crazy Horse girls somewhere later...

PORSCHE

1. Jacky Ickx (B) - Derek Bell (GB) / **Porsche 956**
2. Jochen Mass (D) - Vern Schuppan (AUS) / **Porsche 956**
3. Hurley Haywood (USA) - Al Holbert (USA) - Jurgen Barth (D) / **Porsche 956**

All three works Porsches, built by Porsche System and entered by Rothmans-Porsche, were totally new and had never been tested. The car that had raced at Silverstone was the development car which ran at the beginning of the year at Circuit Paul Ricard and was at Le Mans as a spare. The 956 differs to previous Porsches in that its base is a monocoque in order to maximise ground effect in spite of the shape of the flat six engine. The engine is mounted longitudinally and tilts upwards at the back so that the side pods can be longer and bigger. The rear suspension is also similar to that on modern wing cars, the springs being mounted centrally and operated by a rocker arm.
The six cylinder, four valve engine with water-cooled heads is the one which was designed for Indianapolis a few years ago. The capacity is 2649 cc, which, with the turbo co-efficient, works out at 3708 cc. It is fitted with two KKK turbos, of smaller dimensions this year to reduce fuel consumption, and with the driver able to adjust boost pressure. The pressure was set at 1.2 bar for practice and reduced to 1.1 for the race giving 650 bhp and 580 bhp respectively. Porsche's biggest problem was the rule limiting fuel tank capacity to 100 litres and fuel stops to 25, so the drivers had to keep fuel consumption in mind.
The Porsches were fitted with a five speed gearbox and Dunlop supplied the tyres. They weighed 858 (1), 866 (2) and 868 (3) kilos respectively, with a wheelbase of 264 cms, length of 480 cms and width of 200 cms.
Porsche, as usual, picked experienced drivers : Jacky Ickx had won Le Mans five times (1969, 1975, 1976, 1977 and 1981), Derek Bell had won twice (1975 and 1981), and Hurley Haywood and Jurgen Barth won with Ickx in 1977.

Practice	Race
1 : 3'28"40/1st	**1** : 1st
2 : 3'29"32/2nd	**2** : 2nd
3 : 3'39"85/14th	**3** : 3 rd



BELGA TEAM JÖST

4 : Bob Wollek (F) - Jean-Michel Martin (B) - Philippe Martin (B) / **Porsche 936 J**
Rheinhold Jost's 936 had already raced at Monza, Silverstone and the Nurburgring and it originated from a Porsche 936 previously built by Jöst a couple of seasons ago. It is based on a tubular chassis, although this had had to be slightly narrowed to conform to Group C regulations, and fitted with closed bodywork. It had no ground effect and used a flat six cylinder engine of 2517 cc with water-cooled heads and twin KKK turbos, giving an equivalent capacity of 3523 cc. It was a two-valve per cylinder unit giving around 560 bhp with boost pressure at 1.2 bar. The car's wheelbase was 276 cms, the length was 480 cms and width 200 cms. It was fitted with the same four speed gearbox as used on the Can Am Porsche 917-30, Jöst having deliberately chosen this unit to avoid problems encountered with fifth gear a few years ago. Like the factory cars, the 936 J was on Dunlop tyres and weighed 878 kilos.

PORSCHE KREMER RACING

5. Ted Field (USA) - Danny Ongais (USA) - Bill Whittington (USA) / **Porsche - Kremer C 82 - K 5.**

Manfred and Erwin Kremer had built a completely new car which had never raced before Le Mans. It had a tubular chassis derived from the 936, covered by distinctive bodywork including a fin running the length of the engine cover separating it in two. The flat six cylinder, two valve engine had water-cooled heads but the capacity was only 2344 cc, boosted by twin KKK turbos, giving a total of 3282 cc when multiplied by 1.4. It gave around 550 bhp, driven through a five speed gearbox. The car weighed 877 kilos and ran on Goodyear tyres. Bill Whittington, the third driver, had won Le Mans in 1979 driving a Kremer - prepared Porsche 935 with his brother Don, and Klaus Ludwig.

Practice
4 : 3'30"65/3rd
5 : 3'37"07/8 th

Race
4 : retired after 22hrs 23 m, piston
5 : retired after 1 hr 38 m, head gasket

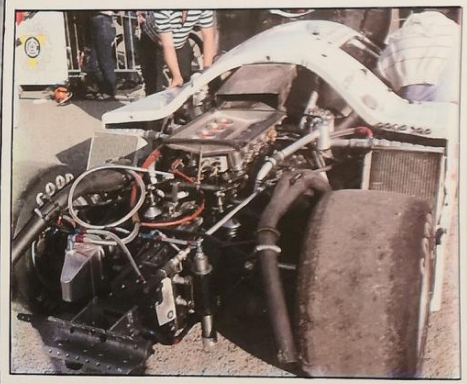
FORD

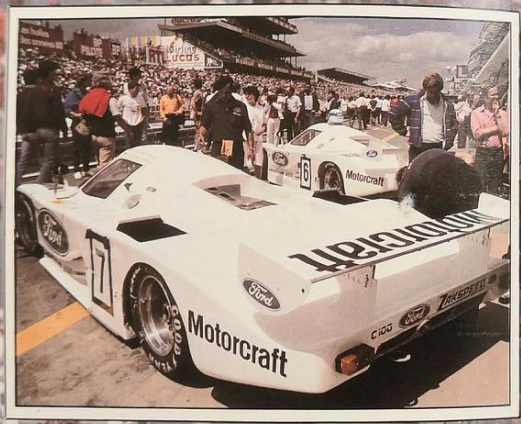
6. Klaus Ludwig (D) - Marc Surer (CH) / **Ford C 100**
7. Manfred Winkelhock (D) - Klaus Niedzwiedz (D) / **Ford C 100**

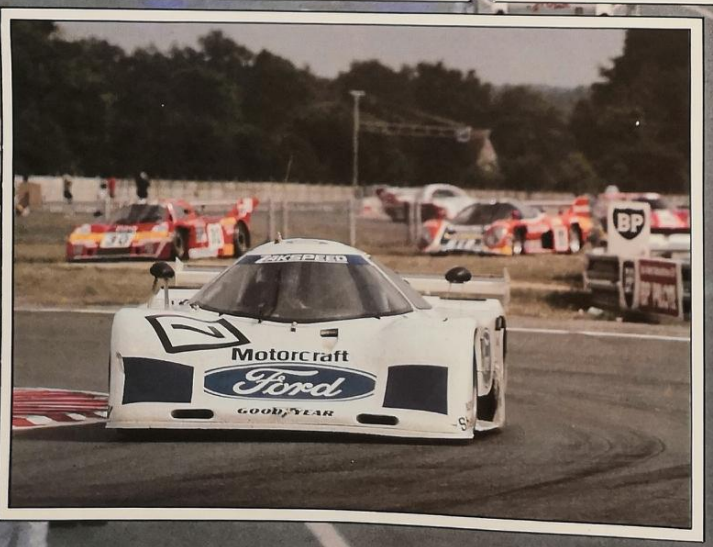
The current Ford C 100 stems from Len Bailey's original design of a Group C car for Alain de Cadenet which was then bought by Ford. Testing and the car's first race at Monza weren't successful, and since Monza, Tony Southgate has been and outside consultant to Erich Zakowski's Zakspeed team which runs the cars for Ford. He has managed to cut the cars' weight with a central monocoque modification in honeycomb, and has also modified the suspension and steering. But the car has little ground effect as it was not incorporated in the original design. The Fords weighed 871 (6) and 874 (7) kilos respectively. This was relatively disappointing, as some reckoned that they could be as low as 815/820 kilos. They ran on Goodyear tyres, and were powered by Cosworth's DFL 3955 cc engine which develops 540 bhp with 47 mkg torque. A Hewland five speed box was fitted. Klaus Ludwig had already won Le Mans with the Whittington brothers in a Kremer Porsche 935 in 1979.

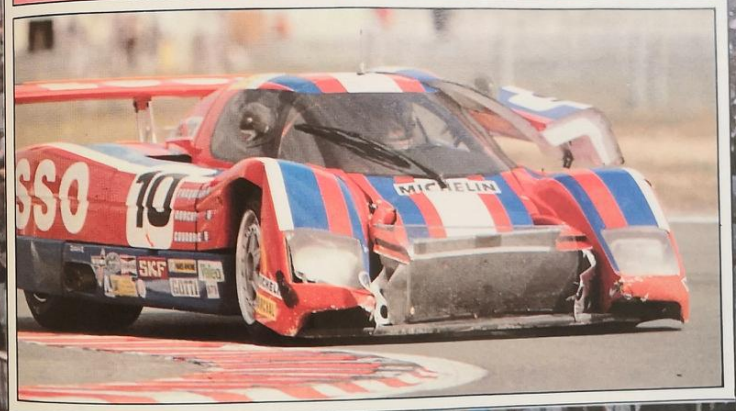
Practice
6 : 3'38"02/11 th
7 : 3'32"50/6 th

Race
6 : retired after 4 hrs 29 m, electrics
7 : retired after 6 hrs 00 m, engine blew.









ESSO PEUGEOT WM

9. Jean-Daniel Raulet (F) - Michel Pignard (F) - Didier Theys (B) / **Peugeot-WM ZNS 4 T**
10. Guy Fréquelin (F) - Roger Dorchy (F) - Alain Couderc (F) / **Peugeot-WM ZNS 4 T**

Peugeot-WM first entered Le Mans six years ago, using the PRV (Peugeot-Renault-Volvo) V 6 engine, privately developed and built like the car by engineers from Peugeot's research centre. At first, they were grouped together as amateurs under the AEREM banner, but they formed the SECATEVA company at the start of 1982 with the aim of making it a profit-making proposition. The company is based at Thorigny, east of Paris, and is managed by Roger Dorchy, who also drives. Three cars were entered for Le Mans, but only two turned up, and they were entirely new. The WM that raced at Monza, Silverstone and Nurburgring was the development car. Gérard Welter, Michel Meunier and Vincent Soulignac had again produced a competitive car, the main problem being fuel consumption. At Silverstone, they had had to reduce turbo boost pressure from the normal 1.3 bar to 0.9 bar in order to finish the race. Since the beginning of 1982, the team had done over 4,500 miles in private testing. Both the new ZNS 4 Ts had wheelbases four centimeters longer than the previous car, longer gear ratios in the WM modified ZF five speed box and aerodynamic modifications. In its current form, the V 6 PRV engine has a capacity of 2849 cc, which, with the turbo equivalence from two KKK turbos, gives a final capacity of 3990 cc. The engine develops 550 bhp.
The cars are very small : only 417 cm long, and 178 cms wide. They weighed 824 kilos (9) and 837 kilos (10) and were fitted with Michelin tyres.

Practice
9 : 3'38"06/12th
10 : 3'39"58/13th

Race
9 : retired after 9 hrs 10 m, no fourth gear
10 : retired after 10 hrs 52 m, engine

AUTOMOBILES JEAN RONDEAU

France Soir - Malardeau
11. François Migault (F) - Gordon Spice (GB) - Xavier Lapeyre (F) / **Rondeau M 382 C** (works entry)

Otis - Rondeau
12. Jean Rondeau (F) - Jean Ragnotti (F) / **Rondeau M 382 C** (works entry)

24. Jean-Pierre Jaussaud (F) - Henri Pescarolo (F) / **Rondeau M 382 C** (works entry)

Primagaz
25. Pierre Yver (F) - Lucien Guitteny (F) - Bruno Sotty / **Rondeau M 379 C** (semi-works entry)

Jacky Haran
26. Jacky Haran (F) - Hervé Poulain (F) - Vivian Candy (IRL) / **Rondeau M 379 C** (private)

Christian Bussi
38. Christian Bussi (F) - Pascal Witmeur (B) - Bernard de Dryver (B) / **Rondeau M 382 C** (private)

The latest M 482 C ground effect Rondeau had been left at the team's base six miles east of Le Mans as it was thought that it still needed sorting to make it competitive for such a complicated race as Le Mans. Amongst the aerodynamicists involved with this car is Max Sardou. All the same, there were six Rondeaus at Le Mans, three works cars, one semi-works car, and two private entries, those being made up of M 382 Cs (1982) and M 379 Cs (1981). All the cars have a tubular chassis, and the later models used M 482 rear suspension with springs mounted on the gearbox bell-housing working with rocker arms. Although this system is for use with the ground effect M 482 C, the earlier models are not wing cars.

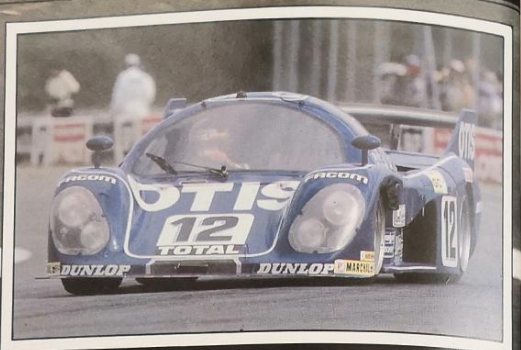
The team arrived at Le Mans with a win at Monza, third at Silverstone and second at Nuburgring behind them and in the lead of the World Endurance championship. The later cars have a wheelbase of 273.5 cms and length of 479.5 cms, while the earlier models have a wheelbase of 249 cms and are 449 cms long. Both models are 198 cms wide.
All six Rondeaus varied in their use of engines, tyres and weight :

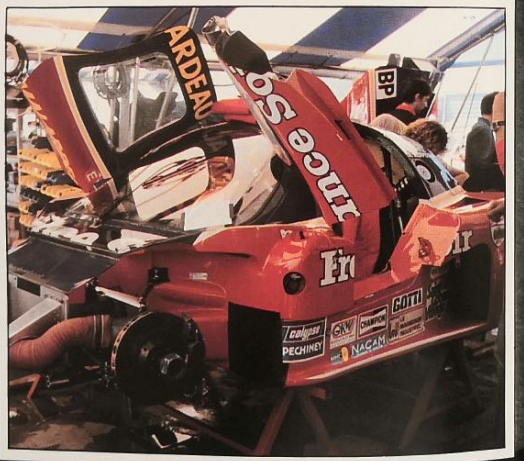
- numbers 11 and 12 were fitted with V 8 Cosworth DFLs of 3955 cc, weighing 829 and 810 kilos respectively and fitted with Dunlop tyres.
- numbers 24 and 25 had 3299 cc V 8 Cosworth DFLs giving around 485 bhp, weighing 807 and 824 kilos respectively and fitted with Dunlop (24) and Avon (25) tyres.
- numbers 26 and 38 had 2993 cc Cosworth engines (giving around 460 bhp), weighing 809 and 905 kilos respectively and using Dunlop tyres.
- all six cars were fitted with five speed Hewland gearboxes.

Henri Pescarolo had scored a hat-trick of wins at Le Mans in 1972, 1973 in 1974 driving Matras, while Jaussaud and Rondeau had won together in 1980. The official Rondeau works effort was team managed by Englishman Keith Greene, Spice's usual team manager.

Practice
11 : 3'40"71/16 th
12 : 3'54"81/38 th
24 : 3'46"00/22 nd
25 : 3'52"69/35 th
26 : 3'52"36/32 nd
38 : 3'52"90/36 th

Race
11 : retired after 9 hrs 59 m, ignition
12 : retired after 10 hrs 12 m, ignition
24 : retired after 8 hrs 33 m, engine
25 : 10 th
26 : retired after 10 hrs 56 m, valve
38 : 15 th





MARCH

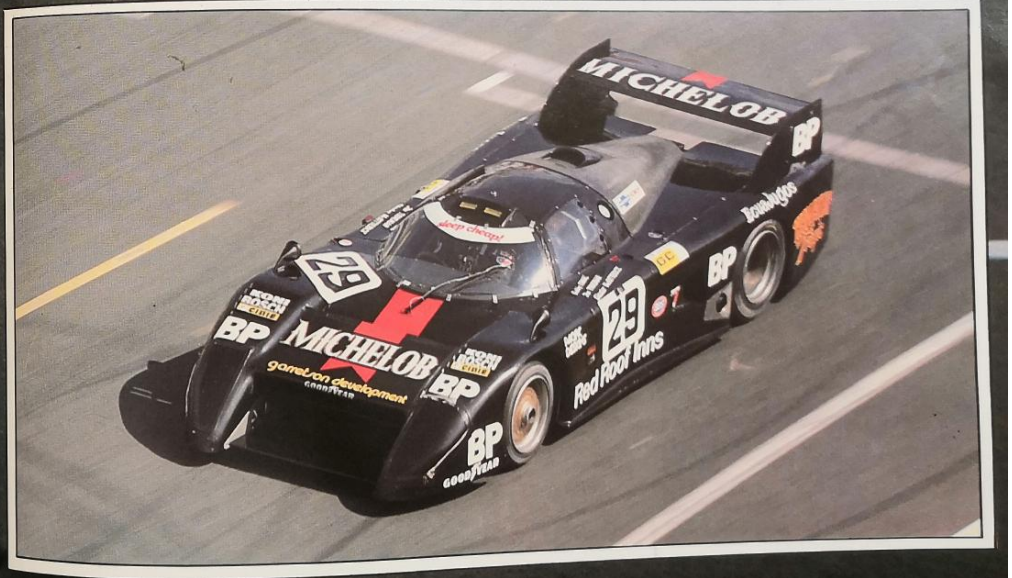
March Racing
14. Eje Elgh (S) - Patrick Neve (B) - Jeff Wood (USA) / **March-Chevrolet 82 G**

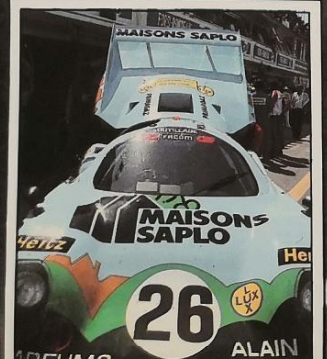
Garretson Developments
29. Bobby Rahal (USA) - Jim Trueman (USA) - Skeeter Mc Kitterick (USA) / **March-Chevrolet 82 G**

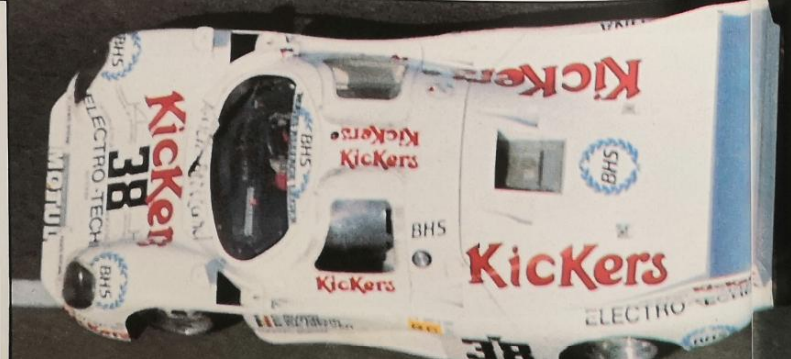
The parentage of the current 82 G can be traced back to the BMW M1 which they developed last year for the World Championship and also for use in American IMSA races. Since then, of course, March's development has been considerable, so that only a vague resemblance in bodywork, designed by Max Sardou, remains. Both 82 Gs were powered by Chevrolet V 8 engines which have been the backbone of Can Am racing, although these units were slightly bigger. March Racing's Nicholson-built unit was of 5835 cc with Bosch injection giving 580 bhp, while the Garretson unit built by Gerry Woods was of 5811 cc on Lucas injection giving 600 bhp.
March had trouble at the start of the season with their air intake above the windscreen, although this has been banned since June 1, so some source of air flow was required in an effort to make the engines reliable. The works car weighed 895 kilos and the Garretson model weighed 983 kilos. Both used five speed Hewland gearboxes and ran on Goodyear tyres.

Practice
14 : 3'47"45/24 th
29 : 3'51"70/30 th

Race
14 : retired after 6 hrs 24 m, electrics
29 : retired after 2 hrs 28 m, punctured fuel tank







LOLA

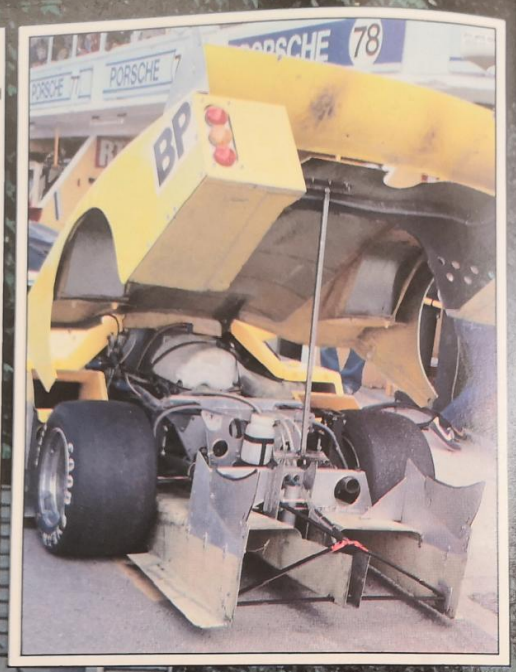
ULTRAMAR TEAM LOLA
16. Guy Edwards (GB) - Rupert Keegan (GB) - Nick Faure (GB) / **Lola T 610**
COOKE RACING - MALARDEAU
17. Brian Redman (GB) - Ralph Cooke (USA) - Jim Adams (USA) / **Lola T 610**

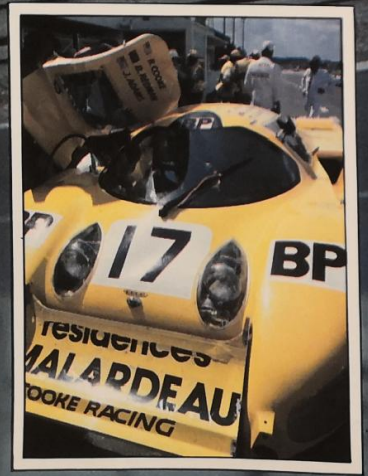
Eric Broadley's Lola is spectacularly aerodynamic in comparison to most other Group C cars. The works Ultramar car has spent some time in the Williams team's wind tunnel at Didcot where Broadley has developed a horizontal stabiliser replacing the front wing. There was also a new rear wing for the second day of practice. And the car was spectacularly quick on the Mulsanne straight, being second quickest at 218.7 mph. Equally, it has tremendous ground effect, so much so that it sucked the undertray off the car in practice !

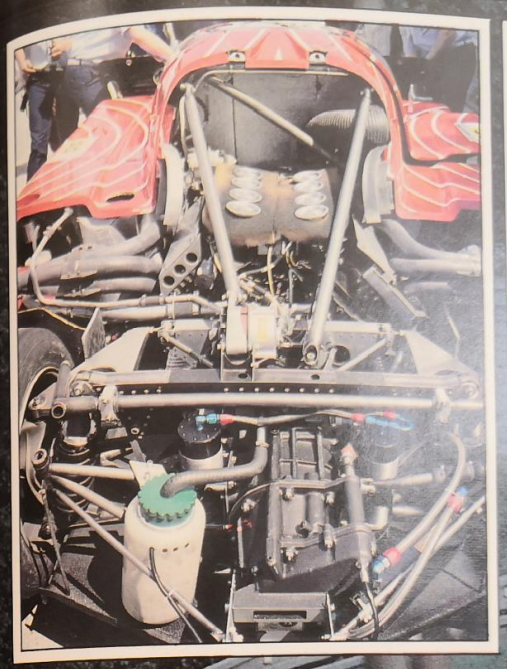
The Cooke Racing model, which Redman had driven at Snetterton before going to Le Mans, still had the front wing which held it up on the straight, its maximum speed being 207.5 mph. Later in the first session, Cooke slightly damaged the car when he went off out of the last corner. Chief mechanic on this car was former Formula 3 driver John Bright.
Both T 610s were fitted with 3955 cc DFLs coupled to Hewland five speed gearboxes. The Ultramar/Newsweek car weighed in at 895 kilos and used Avon tyres, while the Cooke Lola weighed 885 kilos on Goodyears.

Practice
16 : 3'37"60/10 th
17 : 3'43"06/18 th

Race
16 : retired after 5 hrs 20 m, head gasket
17 : retired after 1 hr 53 m, no fuel







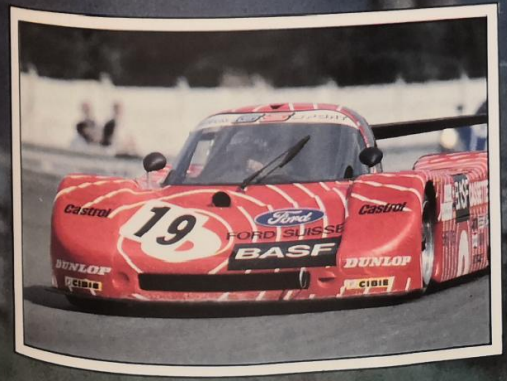
BASF CASSETTEN TEAM GS SPORT

19. Walter Brun (CH) - Sigi Muller J' (D) / **Sauber SHS C 6**
20. Hans Stuck (D) - Jean-Louis Schlesser (F) - Dieter Quester (A) / **Sauber SHS C 6**

The Saubers had already showed promise ar Monza, Silverstone and Nurburgring, although it was clear that they still hadn't reached the peak of reliability. The cars' Swiss builder Peter Sauber had stiffened the monocoques for their week in France. Bodywork has been designed by Hugo Seger and Peter Hoffman from Switzerland and includes a distinctive delta wing, while the cars are prepared by Gerhardt Schneider, a long time German Group 5 entrant, in Freibourg, West Germany. The Stuck car was powered by a 3299 cc DFL while the other car had a 3955 cc unit, both driving through Hewland five speed gearboxes and running on Dunlop tyres. The Sauber SHS (SHS = Seger Hoffman Sauber) weighed 855 (19) and 863 (20) kilos respectively.

Practice
19 : 3'40"57/15th
20 : 3'33"25/7 th

Race
19 : retired after 5 hrs 51 m, broken starter motor
20 : retired after 5 hrs 04 m, broken engine mounting



GRAND TOURING CARS INC

27. Mario Andretti (USA) - Michael Andretti (USA) / **Mirage M 12**

Harley Cluxton, Ferrari and Lambourghini concessionnaire in Phœnix, Arizona, bought Mirage from John Wyer a few years ago, but retained the services of team manager John Horsman who now runs Mirage from Phœnix.
The last time Mirage ran at Le Mans was in 1979 in Ford colours, but for the new Group C World Championship, Cluxton asked Tiga in Reading to build two cars. Howden Ganley, who now runs Tiga on his own following Tim Schenken's move to the USA to join John Fitzpatrick Racing, managed to deliver one car fairly early, but the other, due to be driven by Rick Mears and John Morton, didn't arrive until May and couldn't be prepared in time.

The Mirage's bodywork had been developed in Lockheed's high speed wind tunnel at Atlanta, and later the car had run at the high speed, seven mile oval run by the Vehicle Research Centre in Ohio where Renault tested the A442 in 1978. Finally, the team tested at Riverside.

The Mirage was fitted with a 3955 cc V 8 DFL, driving through a five speed Hewland. It weighed in at 809 kilos and ran on Goodyear tyres. Not surprisingly, the team of Andretti father and son was a tremendous attraction, as Mario hadn't raced at Le Mans since 1967 when entered in a Ford Mk1V. Sadly, the car was destined not race.

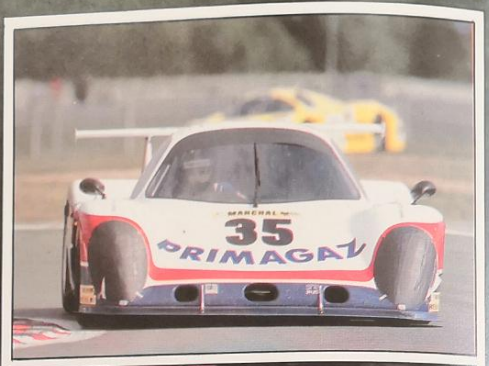
YVES COURAGE

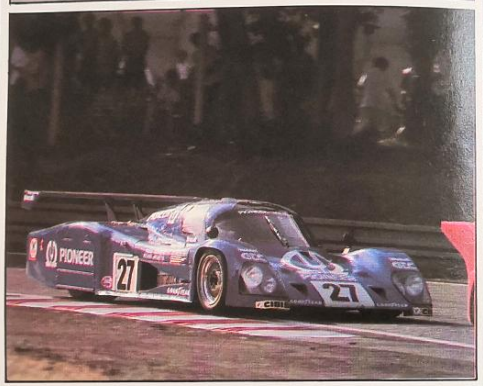
35. Yves Courage (F) - Jean-Philippe Grand (F) - Michel Dubois (F) / **Cougar CO1**

Yves Courage is attempting to follow in Jean Rondeau's footsteps : he comes from the Le Mans area, and like Rondeau, who built his own car for the 1976 race, has built his own machine. But Courage has less money, a small budget from Primagaz. The monocoque was constructed by Englishman Don Foster in Vichy, France, who also makes Rondeau parts. It was completed shortly before the Nurburgring 1000 kms and did a few laps at Magny Cours in Patrick Gaillard's experienced hands. The German event wasn't the best in which to test, and some parts, such as the correct shock absorbers, hadn't yet arrived, so it wasn't surprising that it retired early. It was hoped that Gaillard would drive at Le Mans, but lack of money forced the team to seek a paying driver, in this case, Michel Dubois.
Courage has established his own little non-profit making company, Techniques Automobiles Mancelles. The car was fitted with the only 3299 cc DFL owned by Courage ; the team used a 2993 cc unit at Nurburgring. Once again, power was transmitted through a five speed Hewland gearbox through to Dunlop tyres. The car weighed in at 876 kilos. Its bodywork had been developed by a man who knows all about Le Mans : Marcel Hubert, who worked on the winning Renault A 442 at Le Mans in 1978.

Practice
27 : 3'37''09/9 th
35 : 3'51''62/29 th

Race
27 : excluded before start
35 : retired after 10 hrs 09 m, gearbox





ASTON MARTIN

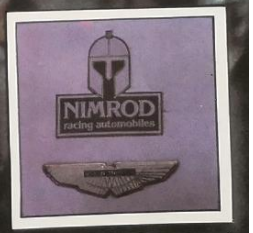
Nimrod Racing Automobiles Ltd
31. Bob Evans (GB) - Geoff Lees (GB) - Tiff Needell (GB) / **Aston Martin-Nimrod**

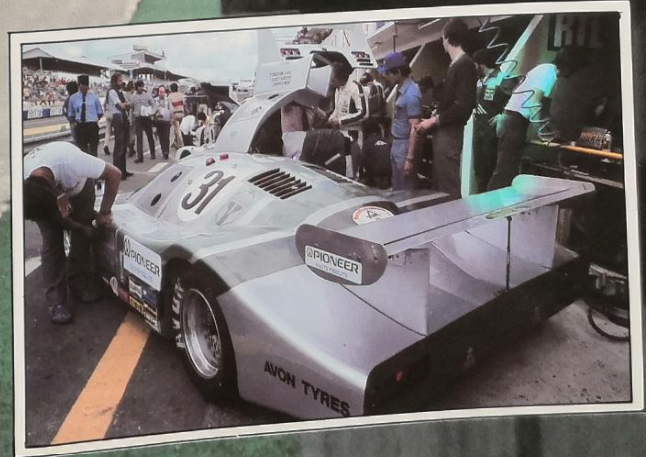
Viscount Downe - Pace Petroleum
32. Simon Phillipps (GB) - Ray Mallock (GB) - Mike Salmon (GB) / **Aston Martin-Nimrod**

The return of a true racing Aston Martin was a great event at Le Mans, and it was partially thanks to Robin Hamilton, an Aston Martin dealer that they did so. His Nimrod company had built the cars, although the basic design came from Eric Broadley. He had based the monocoque on the Lola T 70, and suspension design stemmed from the Indianapolis Lola. The Aston Martin V 8 engine has a capacity of 5340 cc with bore and stroke of 100 x 85, fitted with a two valve head and Lucas fuel injection. Power at 7250 revs is between 520 and 550 bhp. This was driven through a five speed Hewland gearbox to Avon tyres. But the Aston's main problem was weight : 31 weighed 1047 kilos and 32 was four kilos heavier. Another man behind their entry was Victor Gauntlett who not only has an interest in Aston Martin, but also Pace Petroleum, which sponsored number 32.

Practice
31. 3'48''17/26 th
32. 3'46''34/23 rd

Race
31. retired after 3 hrs 39 m, accident
32. 7 th

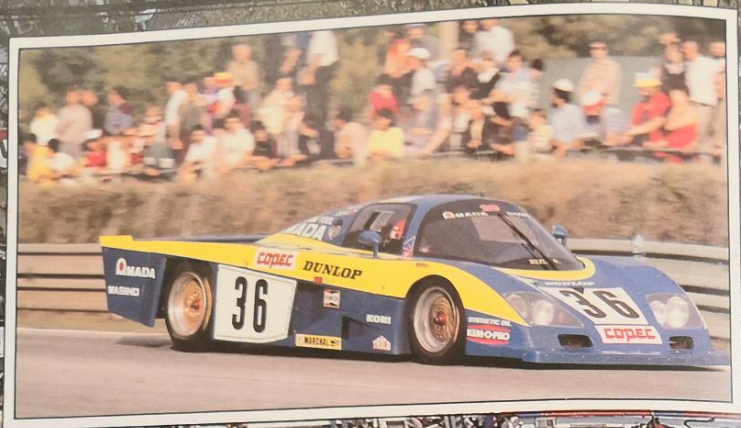




DOME CO LTD

36. Chris Craft (GB) - Eliseo Salazar (RCH) /
Dome-Amada RC82

The Dome had been completely rebuilt in its conversion from Group 6 car to Group C. Masao Ono, the original team manager, had asked March Grand Prix to do the job, and a separate company, March Le Mans, had been established headed by Dave Sims. The car was powered by a 3299 cc Cosworth DFL, fitted with a five speed Hewland gearbox and Dunlop tyres. It weighed in at 903 kilos.



GRID RACING

37. Emilio de Villota (E) - Alain de Cadenet (GB) - Desire Wilson (ZA) /
Grid-Plaza S1

The GRID is the baby of two ex-Lotus men : Geoff Aldridge who built and engineers the car, and Ian Dawson, now the team manager but Mario Andretti's former chief mechanic. The car was built in England and the whole project has been made possible thanks to the financial help of Guiseppe Rizzi who has brought money from the Texan property company Plaza and the American Crysen petrol company. Again, the car was fitted with a 3299 cc Cosworth DFL mated to a Hewland five speed box. The GRID ran on Dunlops and weighed 824 kilos. It is very distinctive for a Group C car ; it looks more like a Can Am machine.

Practice
36 : 3'44"12/20 th
37 : 3'42"77/17 th

Race
36 : retired after 8 hrs 48 m, broken suspension mount
37 : retired after 0 hr 39 m, piston

LANCIA

MARTINI RACING
50. Riccardo Patrese (I) - Piercarlo Ghinzani (I) - Hans Heyer (D) / **Lancia-Martini**.
51. Michele Alboreto (I) - Teo Fabi (I) - Rolf Stommelen (D) / **Lancia-Martini**.

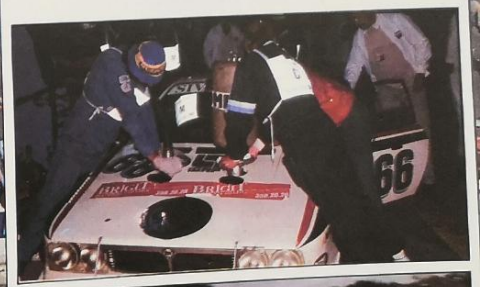
Lancia has taken advantage of the fact that two litre Group 6 sports cars are still allowed to run against Group C and Group 5 cars in the World Endurance championship. Even though they may not score points in the Makes championship, the drivers can score points in the Endurance Championship for Drivers.
Lancia had already won at both Silverstone and Nurburgring. The car is fitted with a turbo-charged four cylinder engine of 1425cc, making a ficticious capacity of 1995cc. Bodywork for Le Mans was developed in a wind tunnel including the front section which had already appeared at Silverstone, and a new rear wing which gave 20 per cent less downforce, but also 35 per cent less drag. Fuel consumption had been reduced by 15 per cent thanks to a different injection pump set-up and also some development work by Pirelli. The car was fitted with a five speed Hewland gearbox. The Lancias weighed a mere 707 (50) and 703 (51) kilos and with around 430 bhp, they had superb power-to-weight ratios. The wheelbase is 250 cms, the length is 470 cms and the front and rear tracks are 147 cms and 134.4 cms respectively. Maximum speeds on the straight in practice were 193.2 mph (50) and 203.8 mph (51).

Thierry Perrier
65. Thierry Perrier (F) - Bernard Salam (F) - Gianni Guidici (I) / **Lancia Beta Monte Carlo turbo**.
Jean-Marie Lemerle
66. Jean-Marie Lemerle (F) - Max Cohen-Olivar (F) - Joe Castellano (I) / **Lancia Beta Monte Carlo**

The two ex-works Monte Carlos were entered privately and brought from Italy by the team run by former Ferrari team manager Daniele Audetto. They were powered by a similar unit to that used in the sports cars, but tuned to give 450 bhp. These drove through Lancia-Colotti five speed gearboxes to Pirelli tyres. The cars weighed 864 (65) and 858 (66) kilos respectively and were entered in Group 5.

Practice
50 : 3'31"78/5th
51 : 3'31"42/4th
65 : 4'12"79/54th
66 : 4'02"58/47th

Race
50 : retired after 14 hrs 55 m, no turbo pressure
51 : retired after 7 hrs 18 m, blown engine
65 : disqualified for gearbox change after 17 hrs 25 m
66 : 12th



BMW

Total
61. Roland Ennequin (F) - Franco Gasparetti (I) - Mario Gabriel (F) / **BMW M1**

EMKA Productions Ltd
62. Steve O'Rourke (GB) - Nick Mason (GB) - Richard Down (GB) / **BMW M1**

Tony Garcia
85. Tony Garcia (USA) - Frederick F. Stiff III (USA) - Albert Naon (USA) / **BMW M1**

All three BMW M1s had the usual straight six cylinder, 3497 cc engine, developing 475 bhp driving through a five speed ZF gearbox. Numbers 61 and 62 were in Group 5 trim, weighing 1119 and 1047 kilos respectively, while the more conservative 86 was entered in IMSA GT and weighed 1052. They used Pirelli, Dunlop and Goodyear tyres respectively.

Chevron Racing Cars

55. Martin Birrane (IRL) - John Sheldon (GB) - Neil Crang (AUS) / **Chevron B 36**

The other Group 6 car, apart from the Lancias, was this Chevron powered by a Ford-based four cylinder 1995 cc engine giving 285 bhp. It was entered by the factory which is now based in Scotland producing Atlantic and SuperVee cars. It was fitted with a five speed Hewland gearbox, equipped with Avon tyres and weighed 618 kilos.

Michel Lateste

30. Michel Lateste (F) - Hubert Striebig (F) - Jacques Heuclin (F) / **URD - BMW C 81**

Lateste was meant to drive a March, but instead hired this German built Group C URD powered by a six cylinder, 3455 cc BMW giving 475 bhp. The BMW engine is mated to a five spead ZF box. On Dunlop tyres, it weighed 821 kilos.

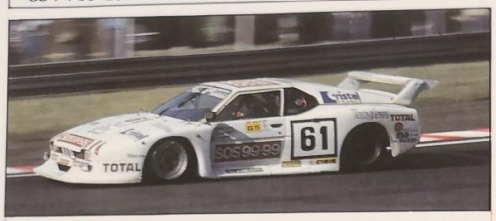
Dorset Racing Associates

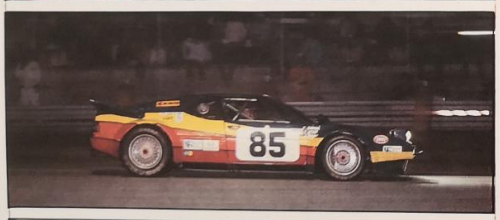
39. Mike Wilds (GB) - François Duret (GB) - Ian Harrower (GB) / **De Cadenet DRA**

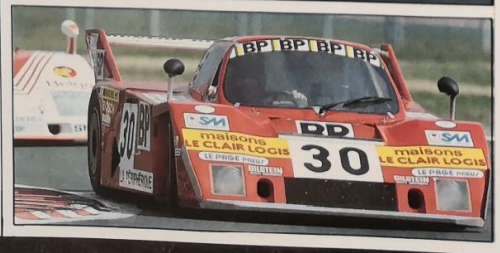
The car was an old Group 6 Lola, converted into a De Cadenet, and converted again by ADA into a Group C car for François Duret. It had a short tail and steep screen and used a normal three litre Cosworth with the usual five speed Hewland gearbox, Goodyear tyres and weighed 830 kilos.

Practice
61 : 3'55"40/39 th
62 : 4'00"23/44 th
85 : 4'10"02/52 nd
55 : 4'04"30/49 th
30 : 3'47"62/25 th
39 : 4'00"29/45 th

Race
61 : 18 th
62 : retired after 21 hrs 07 m, blown engine
85 : retired after 9 hrs 32 m, accident
55 : retired after 4 hrs 18 m, head gasket
30 : retired after 3 hrs 10 m, engine
39 : retired after 4 hrs 29 m, out of fuel







FERRARI

Prancing Horse Farm Racing
70. Carson Baird (USA) - Jean-Paul Libert (B) - Pierre Dieudonne (B) / **Ferrari 512 BB**

Charles Pozzi - Ferrari France
71. Jean-Claude Andruet (F) - Claude Ballot-Lena (F) - Hervé Regout (B) / **Ferrari 512 BB**

North American Racing Team
72. Alain Cudini (F) - John Morton (USA) - John Paul Snr (USA) / **Ferrari 512 BB**

73. Preston Henn (USA) - Denis Morin (USA) - Randy Lanier (USA) / **Ferrari 512 BB**

All four Ferrari Boxers were entered in the IMSA GTX class and were fitted with the flat 12, 4992 cc engine fed by Lucas fuel injection and giving 475 bhp. Naturally this was mated to Ferrari's own five speed gearbox, and apart from 75 on Goodyears, they all used Michelin tyres. They weighed 1060 (70), 1058 (71), 1084 (72) and 1098 (73) kilos respectively, which is around 70 kilos lighter than last year. Fuel consumption had also been improved.

Practice
70 : 3'56"52/40th
71 : 3'56"80/41 st
72 : 3'54"07/37 th
73 : 4'07"32/51 st

Race
70 : 6 th
71 : retired after 4 hrs 00 m, out of fuel
72 : 9 th
73 : retired after 3 hrs 05 m, out of fuel

CHEVROLET

Stratagraph Incorporated

80. Dick Brooks (USA) - Hershel Mc Griff (USA) - Tom Williams (USA) / **Chevrolet Camaro**

81. Billy Hagan (USA) - Gene Felton (USA) / **Chevrolet Camaro**

Hagan's two Camaros may not have been outwardly the best prepared cars in the paddock, but they delighted the French with their raucous V8 engine beat. What's more, they both finished the race. They were entered in the IMSA GT class. The 5700 cc V8 engine was fed by Holley carbs and gave 470 bhp. They used standard Chevrolet transmission and Goodyear tyres. They weighed in at 1142 (80) and 1109 (81) kilos respectively.

MAZDA SPEED

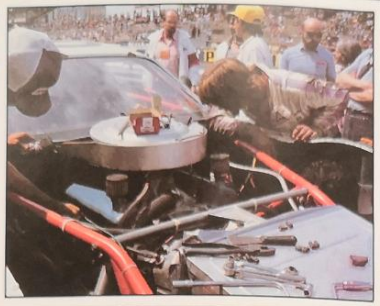
82. Yojiro Terada (J) - Takashi Yorino (J) - Alan Moffat (AUS) / **Mazda RX7**

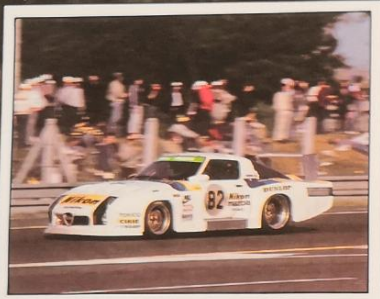
83. Tom Walkinshaw (GB) - Peter Lovett (GB) - Chuck Nicholson (GB) / **Mazda RX7**

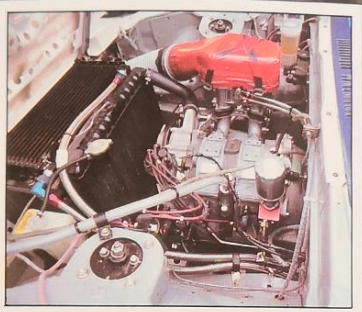
Both cars were entered in IMSA GT and were fitted with rotary Wankel engines with two rotors per cylinder giving an equivalent of 2612 cc and developing 300 bhp. They were on Dunlop tyres and used a Mazda five speed gearbox. They were using Lucas fuel injection supplied by a Kugelfischer pump for the first time in a race. They weighed 960 (82) and 975 (83) kilos respectively.

Practice
80 : 4'00"34/46 th
81 : 3'52"59/33 rd
82 : 4'04"74/50 th
83 : 4'11"29/53 rd

Race
80 : finished 20 th, not classified, insufficient distance
81 : 17 th
82 : 14 th
83 : retired after 13 hrs 41 m, fuel feed







PORSCHE Group 4, 5, IMSA GT and IMSA GTX

Charles Ivey Racing
60. John Cooper (GB) - Paul Smith (GB) - Claude Bourgoignie (B) / **Porsche 935 K 3 (Gr. 5)**

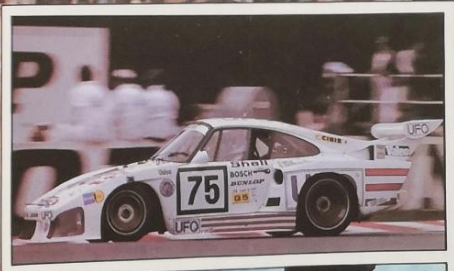
Vegla Racing Team
63. Dieter Schornstein (D) - Maurizio de Narvaez (COL) - Harald Grohs (D) / **Porsche 935 J (Gr. 5)**

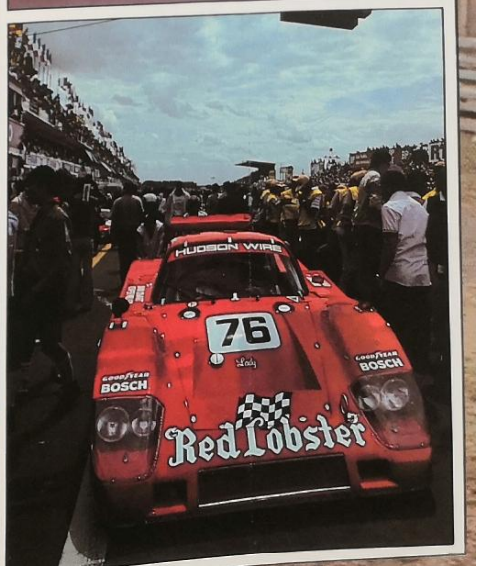
Edgar Doren
64. Edgar Doren (D) - Billy Sprowls (MEX) - Antonio Contreras (MEX) / **Porsche 935 K 3 (Gr. 5)**

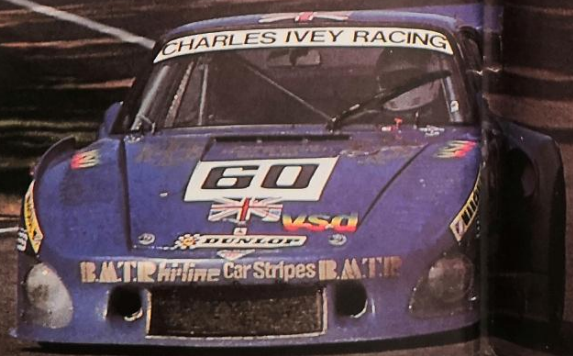
Jost Racing Team
75. Claude Haldi (CH) - Rodrigo Teran (PA) - Jacques Hesnault (F) / **Porsche 935 J (IMSA GTX)**

Bob Akin Motor Racing
76. Bob Akin (USA) - Dave Cowart (USA) - Kemper Miller (USA) / **Porsche 935 K 3 (IMSA GTX)**

There were eight Porsche 935s entered either in IMSA GTX or Group 5. The two 935 J built by Rheinhold Jost were in similar specification : 2994 cc with twin turbos, making a ficticious 4192 cc, giving 650 bhp driving through a Porsche four speed gearbox. They weighed 1051 (63) and 1049 (75) kilos respectively and used Dunlop tyres. Harald Grohs crashed 63 on Wednesday evening just before Mulsanne and it was too badly damaged to start. Fitzpatrick's 935 had been built as a Moby Dick replica by Jost. The style was four years old, but the car was brand new. The engine had a capacity of 2677 cc, making an equivalent of 3747 cc giving 600 bhp. It drove through the usual four speed Porsche gearbox to Goodyear tyres. It weighed 925 kilos. Team manager was Fitz's former Jaguar and Loos teammate Tim Schenken.
Numbers 60, 64, 76, 77 and 78 were 935s built up by the Kremer brothers and type-numbered K 3. Only 76 differed slightly, having a different body style, similar to the front of a Lola T 600. All used four speed Porsche gearboxes and around 650 bhp, although the capacities were different : 60 had a 3121 cc







Cockpits

unit, 64 was fitted with a 2844 cc engine, while 76, 77 and 78 used 3121 cc engines. Number 60 ran Dunlops and weighed 1042 kilos ; 64 was also on also on Dunlops and weighed 1046 kilos ; 76 was equipped with Goodyears and weighed in at 1134 kilos, and 77 (1125) and 78 (1196) were on Goodyear. All used Bosch injection.
There were three 924s in IMSA GT, all fitted with turbocharged four cylinder engines of 2009 cc making them 2813 cc and driving through five speed gearboxes. Numbers 86 (1077) and 87 (1056) were on Goodrich tyres, while 84, on Dunlops, weighed 952 kilos. It was allowed to start when the Mirage was excluded. Number 90 was the only Group 4 entry, this 934 using the six cylinder 2993 cc engine which gives around 350 bhp driving through a Porsche four speed box. It ran on Dunlops and weighed 1163 kilos.

Practice
60 : 3'44"92/21 st
63 : withdrawn (accident in practice)
64 : 3'44"05/19th
75 : 3'50"64/19 th
76 : 3'52"31/31 st
77 : 3'58"84/43 rd
78 : 3'52"68/34 th
79 : 3'48"50/27 th
84 : 1st reserve, started
86 : 3'58"65/42 nd
87 : 4'14"07/55 th
80 : 4'04"08/48 th

Race
60 : 8 th
64 : retired after 2 hrs 44 m, out of fuel
75 : retired after 11 hrs 22 m, differential
76 : retired after 1 hr 01 m, out of fuel
77 : 11 th
78 : 5 th
79 : 4 th
84 : excluded after 5 hrs 47 m, car abandoned after transmission problem
86 : retired after 10 hrs 03 m, lost wheel
87 : 16 th
90 : 13 th

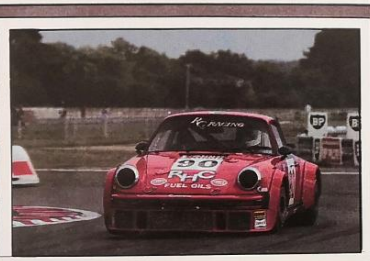
Garretson Developments
77. Anny-Charlotte Verney (F) - Bob Garretson (USA) - Ray Ratcliff (USA) / **Porsche 935 K 3 (IMSA GTX)**

Cooke Racing BP
78. Dany Snobeck (F) - François Servanin (F) - René Metge (F) / **Porsche 935 K 3 (IMSA GTX)**

John Fitzpatrick Racing
79 : John Fitzpatrick (GB) - David Hobbs (GB)/**Porsche 935 (IMSA GTX)**

Canon Cameras GTI Engineering
84. Richard Lloyd (GB) - Andy Rouse (GB) / **Porsche 924 (IMSA GT)**

B.F. Goodrich Co.
86. Paul Miller (USA) - Patrick Bedard (USA) - Manfred Schurti (F) / **Porsche 924 (IMSA GT)**



B.F. Goodrich Co.
87. Jim Busby (USA) - Doc Bundy (USA) - Marcel Mignot (F)/**Porsche 924 (IMSA GT)**

Richard Cleare
90. Richard Cleare (GB) - Tony Dron (GB) - Richard Jones (GB) / **Porsche 934 (Gr. 4)**

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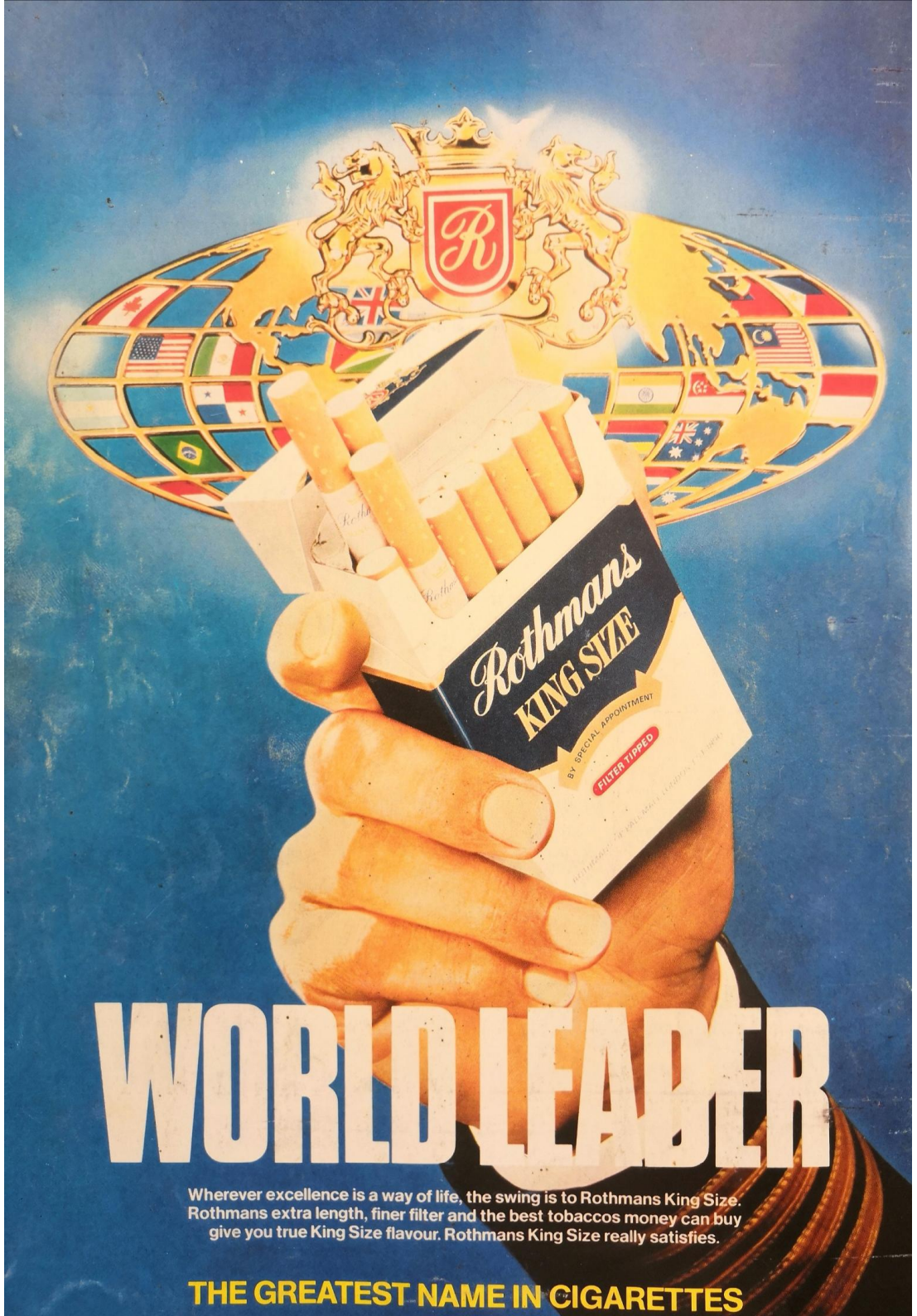
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